DOCUMENT RESUME

ED 341 843 CE 060 363

AUTHOR	Plumer, Mary; Thompson, Nona L.
TITLE	ABC's of the World of Work in Maine.
INSTITUTION	Maine State Occupational Information Coordinating Committee, Augusta.
PUB DATE	Aug 90
NOTE	160p.; Photographs will not reproduce well.
PUB TYPE	Guides - Classroom Use - Teaching Guides (For Teacher) (052)
EDRS PRICE	MF01/PC07 Plus Postage.
DESCRIPTORS	*Career Awareness; *Career Education; Competency Based Education; Decision Making; Economic Factors; *Education Work Relationship; Elementary Education; Employment Potential; Job Skills; Learning Activities; *Occupational Information; Parent Participation; School Community Relationship; Self Concept; Student Attitudes; Student Educational Objectives

ABSTRACT

This curriculum guide, the initial component in a comprehensive career information delivery system, integrates the delivery of career information with career education concepts. The curriculum guide provides teachers with activities and ideas for classroom use on the following topics: the eight elements of career education; involving parents in career education; using community resources effectively; using the "ABC" posters--kindergarten through second-grade activities, grades 3 and 4 activities, and grades 5 and 6 activities; and additional elementary resources. The eight elements of career education are as follows: appreciation and attitudes; beginning competencies; career awareness; decision making; economic awareness; educational awareness; employability skills; and self-awareness. Two appendices are included: the ABC's and occupational classification systems; and words and phrases in the world of work. The document also contains 26 "ABC" posters that depict 74 occupations. The front of each poster presents an artistic depiction of one or more occupations. The back of the poster contains photographs of actual workers and a brief description of typical job duties. (NLA)

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ABC's OF THE WORLD OF WORK IN MAINE

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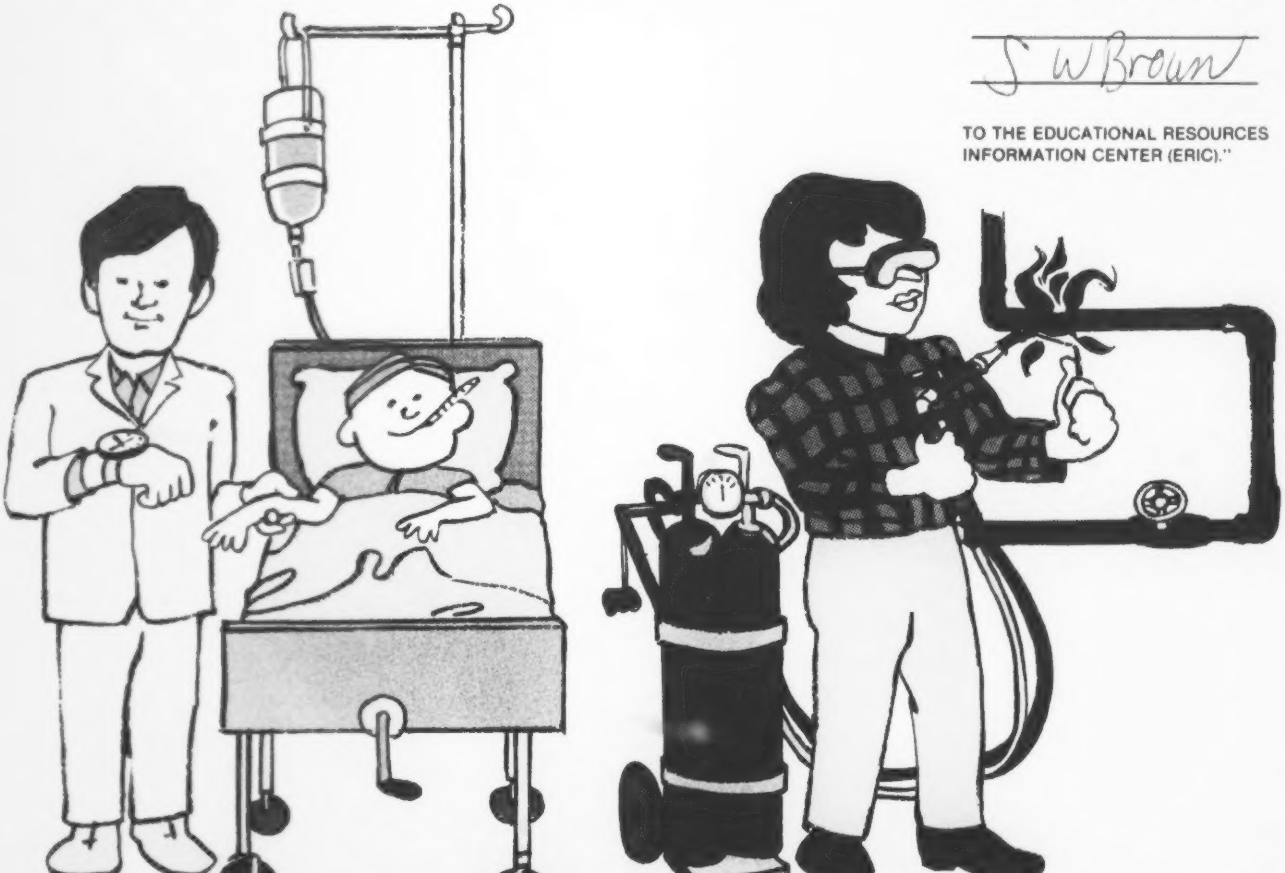

CE060363

The ABC's of the World of Work in Maine

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Credits

The ABC's of the World of Work is published by the Maine Occupational Information Coordinating Committee (MOICC), State House Station 71, Augusta, Maine 04333.

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Organizations contributing photographs -

American Pulpwood Association, L.L. Bean Inc., Public Information Office and the Music Department of the University of Maine at Orono, Maine Central Railroad, Maine State Development Office, Maine State Planning Office, Maine Forest Service, Maine Earmuff Company, Kennebec Valley Medical Center, Augusta Fire Department, Maine Department of Inland Fisheries and Wildlife.

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Paul Plumer Associates

2nd Printing August, 1990

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Printed under approp. 010-12E-1200-152

Foreword

As educators we must look for ways to motivate our youth to become better learners and thinkers and to value inner growth and relationships. Work and family—moving towards the year 2000 will require new skills and approaches towards personal integration within one's vocation, avocation and lifestyle.

The ABC's of the World of Work in Maine is a beginning point. This curriculum provides classroom teachers with quality materials and teacher proven approaches to implement career education within their schools.

This printing of the curriculum contains minor revisions to reflect greater utilization of the Standard Occupational Classification System and the Maine Job Box.

Since the original printing in 1982, many initiatives have made their impact on career education programming throughout Maine. Currently, projects sponsored by the University of Maine, the Maine Department of Education and the MOICC have resulted in more recent articulations of career education programming. Such initiatives include (1) The Maine Guide, (2) Planning to Realize Educational Potential (P.R.E.P.), (3) Future Builders and (4) the Aspirations Compact. The MOICC has continued to support and expand the Work Education Resource Center and to conduct research on career issues in Maine.

These initiatives represent the current focus and direction for career education programming in Maine. For additional information regarding these initiatives, you may contact the MOICC at (207)289-2331 or the Maine Department of Education at (207)289-5925.

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August, 1990

Dedication

Since 1970 many dedicated and creative career educators have worked long and hard hours to spread the word about career education—its benefits to the teaching/learning process and to students. This guide is dedicated to all those career educators and, in particular, to Andre Hemond, Marion Bagley, Terry Sotiriou, Mary Cruise, Fred Freise, and Ruth Roberts.

Acknowledgements

Special thanks is given to the Augusta, SAD #11 (Gardiner), and SAD #16 (Hallowell and Farmingdale) for making available to project staff their elementary curriculums. Based on review of their curriculums, sample activities were designed according to the three grade level groupings of K-2, 3-4, 5-6.

In order to ensure that nontraditional careers were depicted, Ms. Jane Riley, Affirmative Action Officer of the Maine Department of Education and Cultural Services reviewed the occupations selected for the posters.

This curriculum represents the work of many individuals and the cooperation of many Maine workers who consented to be photographed on the job.

The Maine Occupational Information Coordinating Committee and its staff hope that you, the elementary school teacher, will use and enjoy this curriculum within your classroom.

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Introduction

The ABC's of the World of Work in Maine curriculum represents the initial component in a comprehensive career information delivery system. The remainder of the system, comprised of the computerized **CAREER INFORMATION DELIVERY SYSTEM** and **THE MAINE JOB BOX**, serves school age youth and adults seeking career information and those participating in career decision-making activities.

The ABC curriculum contains twenty-six letter posters that depict seventy-four occupations. The front of each poster presents an artistic depiction of each occupation. The back of the poster contains photographs of actual workers and a brief description of typical job duties. The curriculum guide, which accompanies the posters, provides teachers with activities and ideas for using the curriculum within the classroom.

The guide integrates the delivery of career information with career education concepts. This integration with career education provides a conceptual framework that emphasizes the relationship between the worlds of education and work.

A study, conducted by Ohio State University in the mid 1970's, revealed that individuals who had been exposed systematically to labor market information were more successful in the work force in terms of finding employment and attaining job satisfaction than those who were not exposed to career information. Studies relating to career education indicate a positive relationship between the infusion of career education into existing curriculums and individual academic performance.

In order to expose people to career information in such a way as to develop effective decision-making skills, one must begin early in the elementary grades. The ABC curriculum provides the elementary teacher with suggestions for developing a comprehensive and sequential approach to career education at the elementary level. This process will provide a firm foundation for students who will participate in career education activities at the secondary level.

Career Education Defined

Since its conception in the early 1970's, career education has undergone many refinements. Prior to 1981, career education was defined as "an effort aimed at refocusing American education and the actions of the broader community in ways that will help individuals acquire and utilize the knowledge, skills, and attitudes necessary for each to make work a meaningful, productive, and satisfying part of his or her way of living."[1] This definition was further refined by the addition of the "ten basic career education skills."

[1] Kenneth B. Hoyt, *Career Education: Where It Is and Where It Is Going,* (Olympus Publishing Company, Salt Lake City, Utah; 1981) p 9.

"As of 1981, the 'ten basic career education skills' to be imparted to persons through a comprehensive, developmental career education effort include:

1. The basic academic skills of mathematics and of oral/written communication
2. Skills in using and practicing good work habits
3. Skills in developing and employing a personally meaningful set of work values that motivate the individual to want to work
4. Skills in gaining a basic understanding of and an appreciation for the American system of private enterprise—including organized labor as part of that system
5. Skills in self-understanding and understanding of available educational/occupational opportunities
6. Career decision making skills
7. Job seeking/finding/getting/holding skills
8. Skills in making productive use of leisure time through unpaid work including voluntarism and work performed within the home/family structure
9. Skills in overcoming bias and stereotyping as they act to deter full freedom of career choice for all persons
10. Skills in humanizing the workplace for oneself"[2]

[2] Kenneth B. Hoyt, *Career Education: Where It Is and Where It Is Going*, p 15.

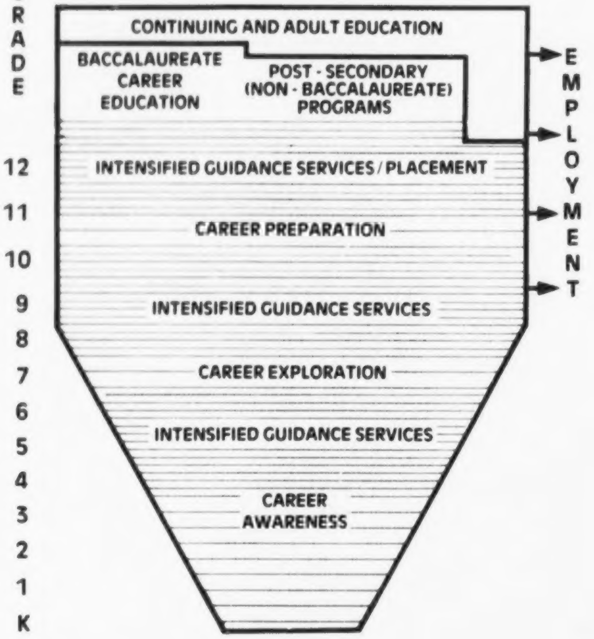
These ten skills have been identified as the skills necessary for successful participation in the work force. In addition, consideration is given to use of leisure time, the family, and non-paid work situations.

Beginning in elementary school, children need to become aware of the entire world of work in a bias free manner so that they will be aware of as many careers as possible. During junior high school, students participate in career exploration activities that lead to greater understanding of the world of work as it relates to personal strengths, weaknesses, skills, aptitudes, and interests. At this time, students can develop tentative career plans that would be of assistance when selecting high school courses. During high school, students embark on specific courses of action that will lead either to employment upon graduation from high school, or entrance into post-secondary training/education. Diagram I illustrates the career education process, kindergarten through adulthood.

Chapter 1 discusses an approach towards attaining the basic career education skills utilizing the **EIGHT ELEMENTS OF CAREER EDUCATION.** Each element is discussed briefly and sample activities are provided. Remaining chapters focus on parental involvement in career education, using community resources, sample activities using the ABC cards, and identifying other resources that are supportive of career information dissemination efforts.

DIAGRAM 1:

A COMPREHENSIVE CAREER EDUCATION SYSTEM


GRADE
CONTINUING AND ADULT EDUCATION
BACCALAUREATE CAREER EDUCATION
POST - SECONDARY (NON - BACCALAUREATE) PROGRAMS
12
INTENSIFIED GUIDANCE SERVICES / PLACEMENT
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INTENSIFIED GUIDANCE SERVICES
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CAREER EXPLORATION
6
INTENSIFIED GUIDANCE SERVICES
5
4
CAREER AWARENESS
3
2
1
K
EMPLOYMENT

CAREER EDUCATION IS FOR ME.
I'm native
CAREER EDUCATION IS FOR ME.

Chapter 1

The Eight Elements of Career Education Effective Teaching Strategies for the Elementary School Teacher

In the early 1970's, when career education was first introduced by the U.S. Education Commissioner Sidney Marland and later supported by Commissioner Terrell Bell, educators in the State of Maine were enthusiastic about the concepts of career education and its applicability to the classroom. Career education provided a medium for creative and meaningful instruction combining traditional learning with real life experiences. Early career educators from South Portland, Farmington, Bangor, and the University of Maine System provided the initial career education impetus in Maine.

The activities created by dedicated teachers and the comprehensive K-12 approaches initiated by these school systems, during the 1970's, created the models implemented throughout Maine under the Career Education Incentive Ave. For the 1990's, curriculum initiatives such as the Maine Guide, P.R.E.P. and Future Builders will provide the conceptual models for career education programming.

Career education is an approach to education that views the school system along with the community and parents as partners in preparing their youth for the world of work and adult living. Career education, beginning at home and continuing with structured sequential learning experiences from kindergarten to graduation, will equip children with the essential basic skills and interpersonal behaviors for effective life/career decision-making and successful implementation of those decisions.

This chapter explains the essence of the career education experience—the infusion of the eight elements of career education into existing curriculums. Many teachers are pleasantly surprised when they discover that they are already carrying out many aspects of career education in their classrooms. The activities of career education are not new, but the sequential and developmental articulation of career education is new and needs to be understood by teachers.

To be a person who contributes to society and family through work, both paid and unpaid, and positive use of leisure time, it is necessary to possess a high degree of self-knowledge and skills. The eight elements of career education, when appropriately infused into the school curriculum, provide students with the experiences leading to the acquisition of such knowledge and skills. The accompanying chart depicts the eight elements of career education and their outcomes.

The 8 Elements of Career Education

The 8 elements and outcomes of career education provide the framework for a comprehensive career related learning process. Each element directly relates to some aspect of career development. The chart below depicts the elements and their desired outcomes in the kindergarten through adulthood learning process.

ELEMENTS OF CAREER EDUCATION

KINDERGARTEN ———————————— ADULT

AWARENESS	EXPLORATION	PREPARATION
SELF-AWARENESS		SELF-IDENTITY
EDUCATIONAL AWARENESS		EDUCATIONAL IDENTITY
CAREER AWARENESS		CAREER IDENTITY
ECONOMIC AWARENESS		ECONOMIC UNDERSTANDING
DECISION MAKING		CAREER DECISIONS
BEGINNING COMPETENCIES		EMPLOYMENT SKILLS
EMPLOYABILITY SKILLS		CAREER PLACEMENT
APPRECIATION AND ATTITUDES		SELF AND SOCIAL FULFILLMENT

A Message to the Teacher

It must be clearly understood that career education is not a separate program or course. It is a concept to be infused, when appropriate, into the existing curriculum. Some educators have shied away from career education thinking it to be another add-on to their already busy curriculums. However, appropriate use of career education concepts can enhance the credibility of what is presently being taught, make teaching easier, and, most importantly, make education more fun for both students and teachers.

No educational activities should be used in isolation, but should be an integral part of the overall educational process. Such is the case with all career education activities. All the sample activities in this guide are designed to be used in conjunction with what is already being done in the classroom. The activities simply provide different ways in which to provide good basic education using different instructional methods. Hopefully, the user of this guide will discover new, motivating techniques which will make his/her job more rewarding.

Following is a brief explanation of each career education element with sample activities for the grade level groupings, K-2, 3-4, and 5-6.

Element 1

Appreciation and Attitudes

In order to feel fulfilled by their career and social environment, people need:

1. Skills in developing and using leisure time through unpaid work including volunteer work performed within the home/family structure.
2. Skills in overcoming bias and stereotyping as they act to deter full freedom of career choice for all persons.
3. Skills in humanizing the workplace for themselves.

At the elementary level, the stage is set for fostering these attitudes. The focus of the element, APPRECIATION AND ATTITUDES, is placed developing these skill areas.

Sample Activities

K—2 Have the students create a play or story about what would happen if all the people in a particular occupation stopped working. An excellent resource for this activity is the song "The King and the Fireman" on the Sesame Street album, "The People in My Neighborhood."

Have the children draw pictures of the types of activities they and their families do after school, at meal times, in the evening, on weekends, etc. Allow each child to show and explain his/her picture to the class. Finish with a discussion of differences in ways people choose to use their time.

3—4 Have the students collect comic strips, newspaper pictures, or magazine pictures of people doing work. As the student describes the work being done, have a class recorder list on the board the jobs shown and label each job with an "M" (Mother shown doing work in the picture) or "F" (Father shown doing the work in the picture). Ask the students to analyze the jobs depicted one at a time and determine if the job can be done by a male only or be done by a female only. The children will discover that very few, if any, jobs demand to be done by a particular sex.

5—6 Assign the students to read a short story involving a diver. With the students, prepare a list of rewards gained by working such as money, prestige, approval, security, service to others, etc. On the blackboard, make a circle with pie wedges for each reward. Let each student reproduce the circle including the pie wedges (work values) which appeal to him/her. Class discussion can follow.

Invite a hospital "Candy Striper" or other volunteer worker to your class to explain his/her work and the satisfaction gained from such work.

Element 2

Beginning Competencies

This element deals with basic skill development, specifically in the areas of mathematics and oral/written communication. These are essential skills for being successful in personal as well as work situations. Thus, any activities which make the student better able to communicate and compute are beginning competencies activities. In today's technological work, even computer literacy can be considered a beginning competency. At the elementary level, nearly all activities deal with this element. The three specific areas to focus on at the elementary level are (1) following directions, (2) speaking, reading, and writing, and (3) basic computation.

Element 3

Career Awareness

In order to develop one's career identity, one must first become aware of all the occupational opportunities available, then explore the options of particular interest, and, once a career path is decided upon, prepare for a specific job.

In grades K-6, the children become aware of all the career opportunities available. Primary years deal with occupational information centering on people who come in direct contact with the child—parents, school workers, and community helpers. As children progress through the elementary grades, teachers find ways to tie awareness of the work world to specific curriculum areas such as nutrition, dental health, city government, transportation, conservation, or other themes the students are studying at a particular time. In Chapter 4 of this guide, *The ABC's of the World of Work in Maine* has been divided into three suggested groupings to tie in with what children typically study at given grade levels. These suggested divisions were based on review of the curricula in four school systems in Maine. However, any system can study the cards in any grade level sequence which best meets its needs. All the activities in Chapter 4 deal with career awareness intertwined with the other seven elements. Following are sample career awareness activities.

Sample Activities

K—2 When students recite the ABC's, ask the class to name a job which begins with each letter of the alphabet.

3—4 Have the students play "What's my line?" Designate three or four students to think up a job title and then allow the rest of the class twenty questions to determine each of the designated student's jobs.

5—6 Present to the class materials relating to the twenty standard occupational classification groups (SOC). After the students understand what each of the groups include, have them pick one group to study further and either give a written or an oral report on their findings.

Element 4

Decision Making

The goal of this element is for students to become effective personal and career decision makers. In order to accomplish this, one must first learn the steps of making effective decisions and then have plenty of opportunities to practice making them, both individually and in groups. As the child grows and develops likes and dislikes, he/she needs to develop the ability to select alternatives most consistent with his/her goals and to implement effective courses of action.

Since many children do not get the chance to make decisions for themselves, the more practice teachers can give students in the elementary years the better. Even making unwise decisions, within a controlled situation, provides good learning if the students are able to see the consequences of their actions. Following are some sample activities relating to the element of decision making.

Sample Activities

K—2 Prepare a life-size paper doll with a variety of outfits. Have the children select the appropriate clothing for a variety of weather conditions.

3—4 Discuss Mark's problem with the children and indicate on a 1-5 scale the pupil's position on commitment to a promise.

"Mark promised his mother that he would help at home by doing dishes all week. The second day he did not do the dishes for one of the following reasons. Was he doing the right thing to break his promise?"

A. The house burned down.
B. His mother asked him to go to his grandmother's on an errand instead of doing dishes.
C. Someone else in the family offered to do the dishes for him.
D. His friends came over to visit.
E. He had some homework to do.
F. His favorite TV program all week was on.
G. He felt like watching TV instead of doing the dishes.
H. He didn't want to do them anymore.

5—6 Have a class debate on the following:
"The mountains of Maine should be set aside as areas to remain forever wild with limited public access."

Review the decision making process and recall the importance of gathering and assessing data before making a decision.

The Decision Making Process

1. **Identify the problem.**
2. **Gather relevant data.**
3. **Evaluate the data.**
4. **Plan a course of action.**
5. **Reassess and evaluate the action taken.**

Hall-Dale Middle School students learn about the Free Enterprise System and careers relating to nutrition.

Element 5

Economic Awareness

The field of economics is very broad. Thus, in career education, the goal of economic awareness is to provide students with the basic understanding and appreciation for the American system of private enterprise—including organized labor as part of that system.

In grades K-6, students need to develop an understanding of money and its uses through the exchange of goods and services and the idea of how to satisfy material needs and wants. Following are sample activities relating to economic awareness.

Sample Activities

K—2 Plan a trading day. Students bring a toy or possession (with parental approval) to trade in class, bringing out the idea of barter before money was available. Discuss how the barter process can be used today.

Set up a store and have children make purchases and make change.

3—4 Have each student write about a favorite possession he/she had as a young child and tell why he/she no longer needs or wants it. The students could then discuss what they think they will want most at 20, 30, and 50 years of age, and why they think they will want these things.

5—6 Have students consider how they would spend $20 received from an uncle the day before the State Fair opened. Categorize the expenditures into various groupings for discussion.

Have the students study various natural resouces and the final products made from them. The students can follow the production of the product up to sale to the public. Note the need of facilities and utensils (capital), land and raw materials (natural resources), and all labor (human resources).

Element 6

Educational Awareness

Education, time spent learning, makes up a significant portion of one's life. Since so much time in children's lives is spent on this endeavor, it is important that they understand the relationship between skills and knowledge learned in school and the use of such skills and knowledge in the world of work and family. To make wise decisions about a career, the individual needs to be aware of all educational opportunities available, and the different types of training required for different occupations.

Sample Activities

K—2 Have the students construct five learning trees (reading, writing, speaking, listening, and using numbers) and put the names of workers on the trees according to the skills they use.

Imagine a day without math, no one could use any math skills. What would your day be like? (Do this with reading, writing, music, art, etc.)

3—4 Invite high school students in business, distributive, and industrial arts education classes to visit your class and explain: (1) What job they are training for, (2) How school is helping them to prepare for work, both now and in the future, and (3) Describe the training they are receiving.

5—6 Have the students organize a puppet show or play on the subject of a person who had dropped out of high school. In the play, deal with this person's problems trying to get a job for which he/she was not prepared.

Element 7

Employability Skills

In order to be successfully employed, one must have effective work habits, know how to get a job, and know how to keep that job. At the elementary level, teachers need to help students develop good work habits in all phases of their school work and make them aware of the steps involved in finding a job. Following are sample activities relating to employability skills.

Sample Activities

K—2 Give children opportunities to care for materials and equipment in the classroom. Discuss the relationship between this responsibility and similar responsibilities in the world of work.

Provide a variety of activities whereby students have the opportunity to practice following directions.

3—4 Whenever speakers visit the class, have the children inquire about how they found and obtained their positions and what types of interpersonal skills are needed to hold the job.

Have the students discuss what difference it makes whether people are on time at their work; Whether they do their best;Whether they have good health; Whether they get along well with other people.

5—6 Invite a personnel manager of a local business (possibly a parent of one of your students) to speak to the children about the process of looking for and obtaining jobs.

Element 8

Self Awareness

To gain self-knowledge, children must be aware of their feelings about themselves in terms of abilities, wishes, interests, values, and life goals. In grades K-6, it is especially important for children to learn to feel good about themselves. Any opportunity to develop a positive self concept in students should be implemented. Helping the students discover strengths and likes and dislikes will help them understand themselves better so they can make better choices for their lives. Following are sample activities relating to the element of self awareness.

Sample Activities

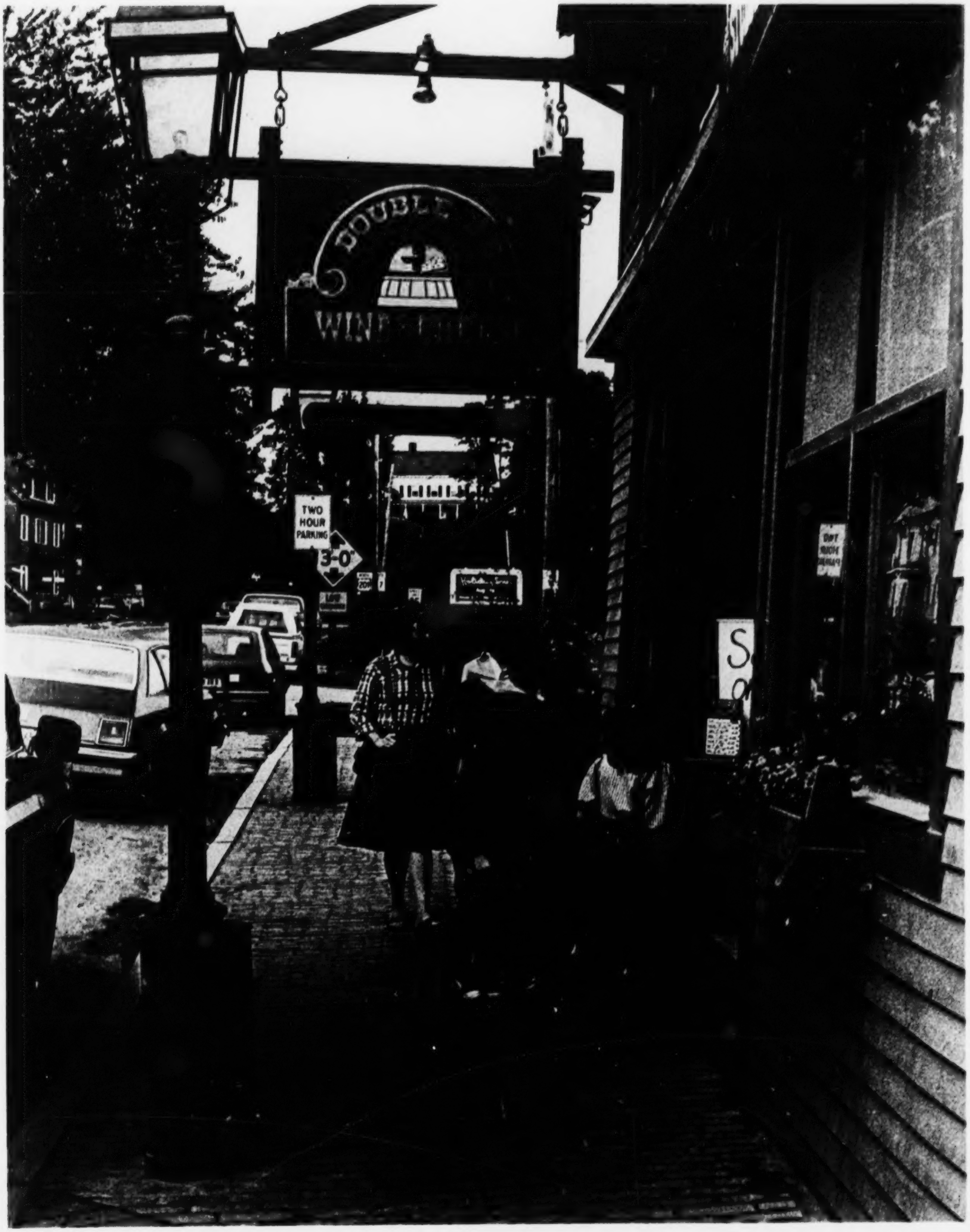
K—2 Make "Me Badges." Run off badges on tag board. Place positive, descriptive adjectives on each student's tag.

3—4 At the end of each day, have the children tell what they have done well that day.

Assign each child one week in the year during which his/her picture is posted on the bulletin board and surrounded by things that mean a lot to him/her. Parents can be asked to submit materials for the bulletin boards. Others in the class can finish statements about the student (I like ______________ because ______________.)

5—6 Explain to the students that each of us is more than just skin and bones—that some of the things that make us different are called traits, abilities, and interests. Have the students try to learn more about themselves by studying their own traits and abilities so they can see how their interests affect what they do and how they do it. Explain to the students that understanding themselves can help them know more fully what they can and cannot do.

Have the students begin making a scrapbook of pictures and clippings from old magazines and newspapers that they feel reflect their personalities (their favorite sports, style of clothing, hobbies, their ambitions or goals, etc.).


DOUBLE
WINE
TWO HOUR PARKING
3-0"

Chapter 2

Involving Parents in Career Education

Parents as Resource People

At the elementary level, parents are a valuable resource to the classroom and benefits are gained by the class, teacher, students, and parents.

> Consider the student who does not excel academically yet can do a great deal in the craft area. During a classroom factory simulation activity, he leads the class in the tasks involving manual dexterity. He is so happy with himself and his achievements that he gets his mother to visit class twice to see him in action. The mother has never visited the school before, so she and the teacher get to discuss her son's progress in a positive, non-threatening atmosphere. The teacher feels she has gained ground with the student because she understands him better after talking with his mother, and, because the ice has been broken, she feels she can have more interaction with the parents during the remainder of the school year.

This series of events took place in Bangor, Maine. Many career education activities lend themselves to involving parents in a number of ways.

If you have canvassed the parents of your class early in the year, as you are following your curriculum, you may see places in your program where involving parents may be a real help. For example, if you are studying community helpers, inviting parents who would be categorized as community helpers would enhance this unit. (A sample letter to parents asking for their assistance is included later in this chapter).

Ways of Utilizing Parents as Resource People

1. **As guest speakers within the classroom.**
2. **As hosts for field trips.**
3. **As models for job shadowing.**
4. **As helpers in supervising special activities, or in classroom instruction.**

Benefits of Utilizing Parents

To the Student

Students Will

1. Gain a sense of pride at having their parents teach something to the class.
2. See parents as workers and contributors to society as well as being Moms or Dads.
3. Form a closer bond between their parents and themselves from having worked together on the same goal.
4. View their school work as being quite important since their parents willingly gave time to come to the class.

To the Teacher and Class as a Whole

The Class/Teacher will

1. Receive additional concrete knowledge of occupations.
2. Realize the credibility of what is learned in school and its relevance to working.
3. Benefit from additional human resources through supervision, transportation, and instruction.
4. Gain a more thorough understanding of students from viewing the interaction between parents and students during learning activities.
5. Encourage the active participation of typically reluctant parents in the classroom.
6. Through demonstration and discussion, be able to teach effective work habits as well as career information and the idea that work at home and school is good training for work preparation.

To the Parents

Parents will

1. Become more involved in their child's education by working together to achieve a common goal.
2. Have contact with the child's teacher, thus keeping more current with the child's activities and progress in school.
3. Have an opportunity to view their child interacting within a group.

(Sample Letter)

Dear ____________________:

The students in our class are studying about the importance of all types of work. We want to learn more about the work of each of the parents of all the boys and girls in (Child's name) class.

Would you answer these questions for us and send it to school with your child? We will study how your job affects our lives.

1. What is your job?____
2. What are some of your duties? ____________________________________

____

3. Is their anything about your work which the children in our class would enjoy seeing, such as pictures, materials, tools, or uniforms?

____

____

4. Would a field trip to your place of employment be beneficial at this grade level?

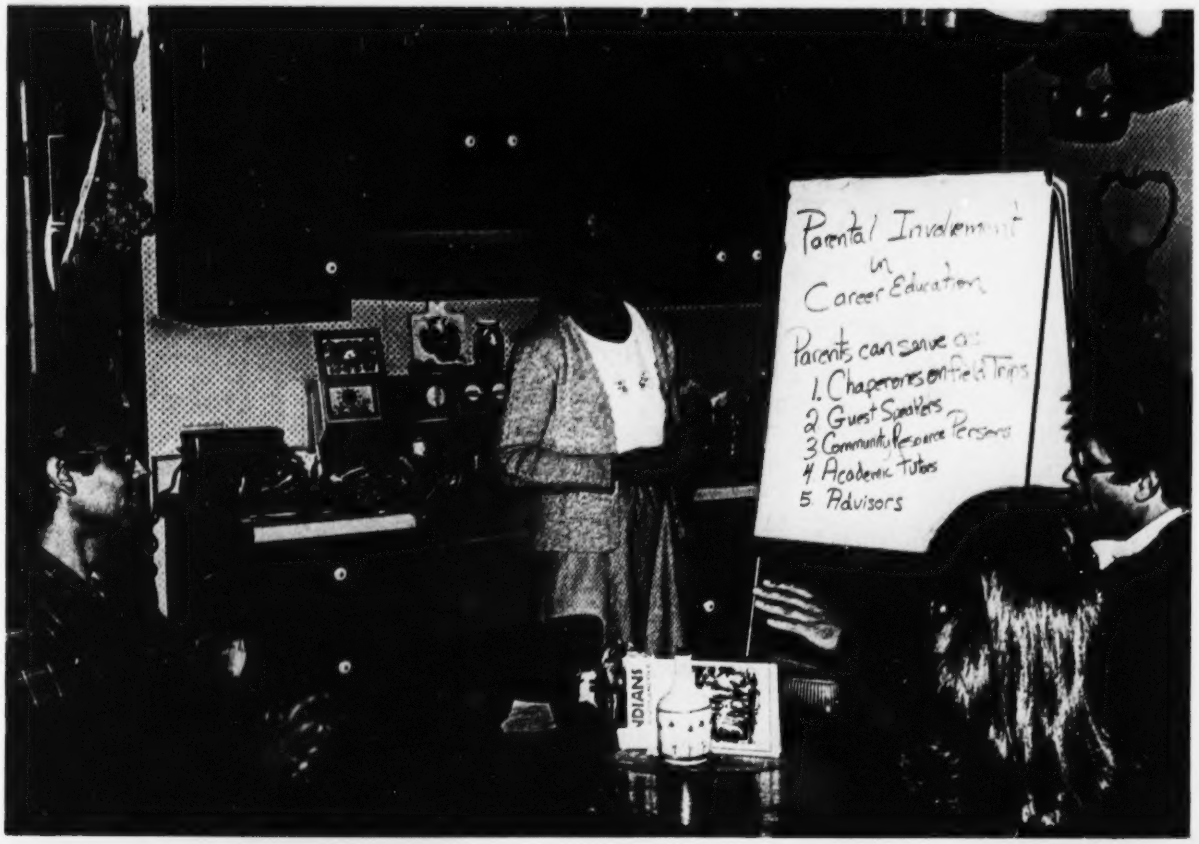
____

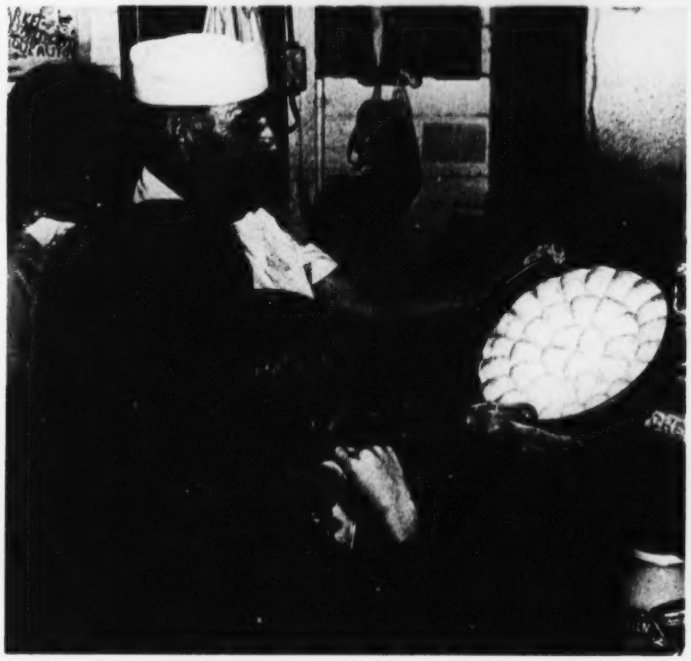
____

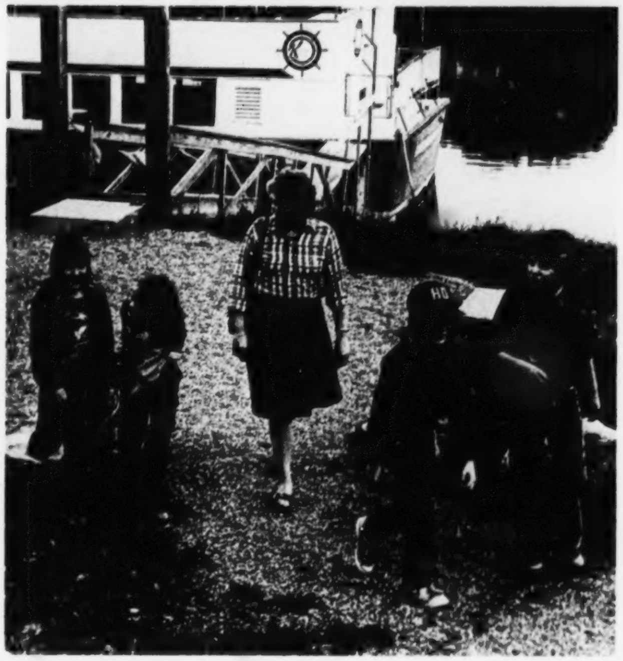
Thank you for your consideration and cooperation.

Sincerely yours,

Name of Teacher


Parental Involvement
in
Career Education
Parents can serve as:
1. Chaperones on Field Trips
2 Guest Speakers
3 Community Resource Persons
4 Academic Tutors
5. Advisors





Helping Parents to Become Career Educators with their Own Children

Most parents are very interested in the career development of their children, yet many have little idea of how to help their children in this process. The elementary teacher or school counselor can offer parents and students a great service by explaining to them the goals of the elementary career awareness program and by offering simple activities and guidelines parents can use with their children. Parents should try not to force on their children their aspirations for the child, but allow the child to explore all his/her options in the world of work. While this is difficult for many parents, it is essential if one is to truly help a child's career development.

Since a great deal of actual learning takes place outside of school, parents can capitalize on this fact by guiding their children to view what they see in ways which will help them to become more aware of the variety of jobs around them. For example, when shopping with their children or eating in a restaurant, parents can simply ask questions like, "Where did this hamburger come from? Who do you suppose made it?" When driving, a parent can point out, to a child, a construction crew working on the road and say, "Look at those people building the bridge. Do you think they are having fun? Do you think you would ever like to do what they are doing?" (developing self-awareness in regard to work). Or, in the same situation, a parent could ask, "What would our community be like if no one built bridges?" (developing appreciation of the value and dignity of all work). Keeping the discussion simple, at a level the child can understand, can be fun and productive for both parent and child and develop within the child an inquisitive manner of viewing the world of work.

All parents can expose their children to their own work—outside and inside the home. Children need to recognize the worth of child caring and home making activities, as well as paid endeavors. They can explain to the child what they do and how they feel about it. Hopefully, parents will pass on to their children a positive attitude toward working, since work makes up a large portion of all our lives.

Parents can help children assess their own likes and dislikes and how they relate to play and work. If a child prefers to do things alone, he/she will probably not enjoy teaching school. For example, children can begin early to discover whether they prefer to work with ideas, people, or things. Parents can help children learn that cooperation or ability to work inter-dependently is necessary to reach home goals (like going on a family trip) or in the work setting (running McDonald's).

Parents need to understand that career development is a continuing process throughout one's life. As children near adolescence, they begin breaking away from the home influence and start making decisions and explorations on their own. Although children need to do this, they also need a lot of support and help from parents in their decision making. One of the great benefits in participating with children in the early years of career awareness and development is that such participation lays the groundwork for communication with them during the stormy adolescent years. If a foundation of communication and trust has been developed early, then children will have a greater willingness to discuss with their parents their career aspirations and concerns when they are actually making career decisions. A caring parent who is as objective as possible is probably the best asset a child can have when clarifying his/her values about career choice.

Chapter 3

Using Community Resources Effectively

As educators, we are constantly looking for new resources and techniques to use in our classrooms. We often overlook the obvious—utilization of the community in the education of our students. Learning can take place within a variety of settings. Very often, many of our most valued learning experiences did not occur in the classroom. Recognizing this fact is critical to the effective delivery of career education and career information at the elementary level. It is through the community resource person that students can see that what they learn in school is important and has practical application in the work world. Parents and representatives of business, labor, and industry can be important resources and provide the stimulus for new learning activities. Furthermore, many commmunity agencies such as Kiwanis, the Rotary, the Lions, and other public service agencies are willing to work with the public schools to develop and maintain a community resource file. Other youth oriented agencies such as the Girl Scouts, Boy Scouts, and 4-H could be of assistance.

Following are suggestions for the incorporation of the community into the education of children in your classroom.

Developing A Community Resource File

If you are going to invite workers to your class, or are going to visit actual work sites, you need to keep a record of involvement. Then you have a running record of interested, supportive, resource people who can be called upon again. Maintaining a card file or a computerized data based management program in a central place, such as the library or principal's office, where it is accessible to everyone allows for updating the file and maximum use. The types of information helpful to include on a file card for the resource file are:

Name
Address
Telephone
Work title and brief description of duties
Type of activity the person will provide
(job shadowing, guest speaker. host a field trip, etc.)

Approximate number of times per year the person
is willing to participate

Running log of how often the resource person has
been used, in what capacity, and by whom

Once a record like this is kept, it is surprising to see how many community workers are being used already. As you bring others into your program, through many of the activities in this guide, your work will become easier in terms of involving the community.

The important thing to remember is to coordinate use of the file. If a resource person has already given as much time as he/she is willing, be sure to inactivate that card until the person has time to participate again. In working with the community it is very important not to over-involve people so that they lose interest in cooperating with you.

If you want to expand the resources in your file, you can make a concerted effort by involving staff members as part of an in-service program or perhaps a sixth grade class project centered on the 20 S.O.C. Groups. Either way, the process is the same. Divide the group into teams or individuals to canvass the community for interested workers from each of the clusters. This could be done through written, telephone, or on-the-spot surveys of the community.

Preparation and Follow-Up—Responsible Techniques for Recruiting and Maintaining Resource Persons

Every good teacher knows that most activities should not be isolated experiences, but continued over a period of time in an integrated series of experiences for students to get the most benefit. Before being exposed to a resource person, the children need to know why the person is being involved in their class and decide what exactly they want to learn from that person. The students must decide whether they will individually ask the person questions or will appoint a class interviewer. The more the children are prepared for the guest speaker or field trip, the more they will gain from that experience.

Follow-up is equally important. The students need to have a chance to talk about what they have experienced. How did they feel about it, what was learned? Writing a thank-you letter to the person involved teaches good manners. A classroom simulation of the work seen gives the children a chance to test out how they might like it. Students could do additional research and write a report about the type of work they've seen performed.

Tying the resource person's involvement into a sequence of activities helps the children gain more from having seen that resource person.

Field Trips

Field trips allow several students at a time to be exposed to a community resource. Careful planning prior to visiting a resource person is essential. The class members need to determine what they want to learn so they can write their questions. Then they must decide how the questions will be asked—by appointed interviewers, individuals one-at-a-time, etc. The teacher should visit the site prior to the trip to determine safety factors, logistics, and to talk with the trip host/hostess.

The resource person needs to be prepared, also. He/she needs to know what it is that the students want to see and learn. A list of helpful guidelines for student questions and for resource people to consider prior to field trips is included at the end of the chapter.

Guest Speakers

Community workers make excellent speakers for children—to make them more aware of the job market, to relate school work to jobs, and to talk to them about what is required to be a good worker. Often they are listened to much more readily than teachers. As in a field trip, prior to a guest speaker's visit, both the students and the speaker need to be prepared. Some specific things for the speaker to know are:

The topic to be covered
The age and attention span of the children
The time of the visit as well as the amount of time devoted to the talk
A list of questions likely to be asked (This can serve as a good framework for the resource person's talk)
The location of the talk and directions to the school

Job Shadowing

One very effective way for an older student to gain first-hand information about a particular occupation is to job shadow. In this activity, the student locates a worker in the job of interest and gets the worker's permission to follow him/her through a day's work (or part of a day, if more appropriate to the student's ability and maturation). The worker should be encouraged to follow a typical work day without dressing up on the job or trying to show the student a fun time.

Good Rules of Thumb

For purposes of good public relations and common courtesy, it is important to show appreciation for the time a community resource person has given. A thank you note from the student and/or counselor/teacher following the activity is imperative.

It is also important to let the person know exactly what is expected of him/her to insure effectiveness. Such preparation also helps lessen possible anxiety on the part of the worker. After initial contact and plans for an activity are made, a letter of confirmation should follow, detailing exactly what is expected and anything unusual which the resource person should know about the students involved, such as physical handicaps or limited ability, which might affect the content of the activity.

Examples of Questions Students Can Use in Interviews

1. What do you do on the job?
2. How long have you worked on this job?
3. What tools do you use?
4. Was this your first job choice? How many times did you change your mind about what you wanted to be before you went to work? Why?
5. Would you say you work primarily with people, things, or ideas?
6. What part of your job do you like best? Why? What part of it do you wish you didn't have to do? Why?
7. Who depends upon your work? Upon whom do you depend for your work?
8. What kind of job security do you have? Is your work seasonal?
9. Is special training required? If so, how do you get that training? Did you get paid during the training period?
10. What experiences and training on this job might prepare you for some other kinds of jobs should you ever want to change?
11. What did you learn in school that helps you in your present job?
12. Is there a special way of talking about your job, i.e. are there words that are unique to your job?
13. As you see it, what are some of the advantages to your job? Some of the disadvantages?
14. How does your job affect your personal life? Do you have to work nights? Are you tired when you get home? Do you have noise during the day?
15. What inventions could put you out of work?
16. Are people with your kind of skills usually needed—even when business may be bad? Is your kind of work limited to geographical areas?
17. What kind of education is necessary for this kind of work? Apprenticeship? Trade school? College? Advanced degrees? Is there any outstanding personal quality required for this job?
18. About how much money can a person earn in this kind of work? Beginning? Advanced?
19. When does your employer compliment you? (Or when do you compliment your employees?) When are people fired?

Things for A Resource Person to Consider Prior to Visitation

Take a moment to consider these questions about your own job:

1. How did you get involved in your present occupation?
2. What work experience did you have before you started your present job?
3. Why did you take this job?
4. What do you like about this job?
5. What are some things you do not like about your job?
6. Who depends on your work? Upon whom do you depend?
7. Are there opportunities for advancement in this job? If so, what are the requirements for advancement?
8. How does your job affect your personal life? Do you have to work nights or weekends? Are you tired when you get home? Do you have to travel? What kinds of people do you meet?
9. Do you work mainly with "people" or "things"?
10. Do you work a lot with ideas?
11. Does your job offer opportunities to be creative?
12. Are people with your kind of skills usually needed—even when business may be bad? Is your work at all seasonal?
13. Could you briefly describe the personal qualities one would need to do your job—strength, agility, ability to think rapidly, ability to make decisions, ability to deal with minor details, ability to deal with other people, etc.?
14. About how much money can a person earn in this kind of work? Beginning? Advanced?
15. Would you recommend this kind of work for your children?
16. How do you spend your time after work? When you are on vacation?
17. If you could have any job in the world, what would you like to be?

Confirmation Letter To A Resource Visitor

(Use School Letterhead Stationery)

Date

Inside Address

Dear ________________:

Thank you for planning to visit with us on _______________ at __________ a.m./p.m. You can be a valuable contributor to our school's career-oriented curriculum by planning your presentation to the class according to the following guidelines:

1. Explain the nature of your career. If possible, wear the type of uniform or clothing you would wear on the job.
2. Show kinds of job tasks you, yourself, perform. (It would be interesting for students if you could demonstrate some tool peculiar to your occupation—this could even be paperwork duties performed.)
3. Provide students with an activity that combines career awareness and academic skills.
4. Emphasize how school subjects have been helpful to your job performance.
5. Allow time for students to ask questions.

If you believe a meeting with me would be helpful in gearing your presentation to the level of students, please do not hesitate to call me.

Please check in at the office of the school upon arrival and you will be given assistance in locating my room.

Very truly yours,

Name of Teacher
Grade Level

Attachments:
Typical student question list.

Chapter 4

Using The ABC Posters

The ABC's of the World of Work posters are designed to be used in a variety of ways. Specific activities at each grade level are delineated in this chapter. Grade level groupings were based on review of the grade level goals and objectives of the curriculums of the Augusta, Gardiner, and Hallowell school systems.

Some general types of activities, however, can be used effectively at any grade level. Following are some suggestions. The cards are designed so that teachers will move from using the cartoons in earlier grades to the photographs and text in grades 5 and 6.

1. **Teaching the Alphabet**—The cards can serve as motivators and examples to teach children their ABC's. Used as flash cards, the children can practice identifying the letters as well as careers which begin with each letter.

2. **Addressing Bias and Stereotyping**—Each card is designed to reduce bias and stereotyping in regard to career awareness and choice. Since by grade one children have stereotyped occupations according to sex, the teacher should point out at every opportunity that bias has nothing to do with career decision-making. Whenever possible, invite non-traditional representatives of occupations (male nurse, female truck driver), to class to speak. A school project could involve inviting non-traditional workers from a variety of occupations to speak to several classes. Group discussions should follow, giving students the opportunity to explore their feelings regarding bias and stereotyping.

3. **Creating Bulletin Boards**—The posters can be used to develop career awareness by developing themes and using the appropriate cards to develop those themes. The teacher could give the students a particular theme and have the students select the appropriate cards to develop the bulletin board. Examples would include:

   A. Careers in a particular occupational cluster
   B. Careers involving data, people, or things
   C. Occupations relating to specific subject areas
   D. Occupations relating to Maine's natural resources
   E. Urban careers—rural careers

4. **Expanding Career Awareness**—Using each poster as a flash card, hold up a letter and ask each student in the class to think of a job beginning with that letter. When students run out of spontaneous answers, with the teachers help they can refer to the Dictionary of Occupational Titles, the Occupational Outlook Handbook, the Maine Job Box or the computerized Career Information Delivery System for more titles.

The remainder of this chapter deals with suggested activities by the three grade level groupings for integrating career information with classroom activities.

K—2 Activities

Mail Carrier

After viewing the mail carrier (M) poster in the ABC's, the following activities could be initiated:

Have the students make a flow chart depicting the various steps a letter goes through from mailing to receiving. Then the students can play a sequence game showing this process or create a bulletin board depicting the flow chart.

Make a field trip to the local post office, preferably with a parent of one of the students as host. Have students prepare ahead of time by discussing the questions they would like to ask the mail carrier. If they decide they each want to ask their own questions, have each question written on a separate card with a number on it from 1 to whatever number of students there are in the class. This way, each child will have an opportunity to interact with the mail carrier and ensured time to speak with him/her. In this phase, the students should become aware of the variety of occupations that exist in the postal service.

After talking with the mail carrier, the students could make their own post office and take turns role playing postal workers and people mailing letters or packages. Part of this activity would include the practice of writing one's own name and address on an envelope and printing a simple letter. The class as a unit should write a thank you letter to the mail carrier.

As part of the simulated post office, the students can practice math skills by using play money to purchase play stamps the children design (integrated art activity). Children can practice addition and subtraction skills by "purchasing" stamps and making change with play money.

As part of language arts, the students can write new words such as mail carrier, route, and post office in a vocabulary notebook. Students as a group could create a story about a mail carrier delivering mail.

Hair Stylist

As part of a hygiene or personal care lesson, talk with the students about the wider variety of occupations dealing with personal care—hairdressers/barbers, cosmetic salespersons/demonstrators, soap and toothpaste manufacturers, and dog groomers. Discuss what a hairdresser or cosmetologist does. Develop a list of questions the children would like to learn about a hairdresser's work. Invite a hairdresser (preferably a parent of one of the students) to speak to the class about his/her work, bringing along tools and equipment used on the job and wearing a uniform worn while working. Appoint two students to interview the worker, using the list of questions the class developed. The teacher can tape record the talk, so the children can review it again later. Interview the worker and ask him/her to do some sample work on a wig before the class—rolling hair, combing out etc. Ask the worker to tie in good hygiene practices as part of the talk and demonstration.

When the talk is over, as part of language arts, have the students write a letter of thanks to the speaker. Then, plan with the students a simulated beauty parlor. Following are guidelines for developing a beauty parlor simulation activity:

1. Divide the class with half serving as operators and half as patrons.
2. The operators should make signs for their stations in the beauty parlor such as "Quick Curl by Mr. Mark" or "Cute Clip by Ms. Cheryl".
3. Decide which services will be provided by the beauty shop—cuts, curls, manicures, permanents, hair tints, facials, etc.
4. For Economic Awareness, decide which services will cost the most, the least. Students should reach the decision that services which require more time and expectation are more costly.
5. Have the students bring in curlers and nail polish from home. The teacher may have to provide these and hair spray.

Once all is ready, the beauty shop can open. Operators can put rollers in the patrons' hair and put nail polish on fingernails. To give the hair stylists a little effect, the teacher can spray hair spray on the rollers when set. Students should not spray the hair due to the potential hazard to the eyes.

When operators are finished with the patrons, they will write up the bill and add the costs. The patrons will count out the appropriate amount of play money to pay the bills. Once the activity is completed, the students can discuss how they felt about being hairdressers, if they think they like working with people, etc.

Note: This unit also ties in nicely with a science unit on mammals. Hair being a distinctive factor, study of dog groomers could also be done.

Earmuff Maker

At Christmas time, the students in a history lesson could study Chester Greenwood of Farmington who invented earmuffs. A general discussion of inventions could ensue including the ways climate affects choice of inventions. The teacher could devise a simple process for making earmuffs and have the children construct a pair as a Christmas present for someone.

Baker

Ask the students to think of how many types of bakers there are and where they work. Examples could include: Mom or Dad at home, school lunch baker, pastry bakers, bread bakers, restaurant bakers, Nissen or Country Kitchen bakers, and bakery shop bakers.

After the students have discussed what bakers do, a nutrition lesson could be taught involving the concepts of (1) empty calories, (2) whole wheat flour as opposed to refined flour in products, (3) sugar versus honey in cooking, and (4) sweets in the diet and how they affect teeth and the body.

Invite a baker to class and have him/her dress exactly as he/she does on the job, show the tools used, and demonstrate making something, preferably a nutritious food such as bread. The baker could show how important it is to be able to follow directions exactly when using a recipe and explain why good math skills are really important when measuring ingredients and doubling recipes.

On the following day, let the students become bakers and make bread. Emphasize the importance of following directions in the recipe and measuring ingredients accurately. When the bread is completed, ask them how they felt working with their hands and creating something to eat. Would this type of work interest them as a vocation? Have them branch out and think about lots of other jobs which involve food preparation such as restaurant workers, caterers, and food processing workers.

Janitor

Before the children arrive in class, arrange to have water spilled on the floor near your desk. When the children enter the room, they will notice the water. Caution them to be careful!

Ask them, "Who can we get to clean this?" The children will say "the janitor", and you will ask him/her to come with a mop to clean the floor. Invite the janitor to tell the children the work he/she does in the school and what he/she uses for tools at work. (This will, of course be planned ahead of time so the janitor has had an opportunity to prepare.) While the janitor is there, encourage the children to think of ways in which they can assist this school helper, e.g. throwing papers in the wastebasket, putting toys away, being neat in the lunchroom, etc.

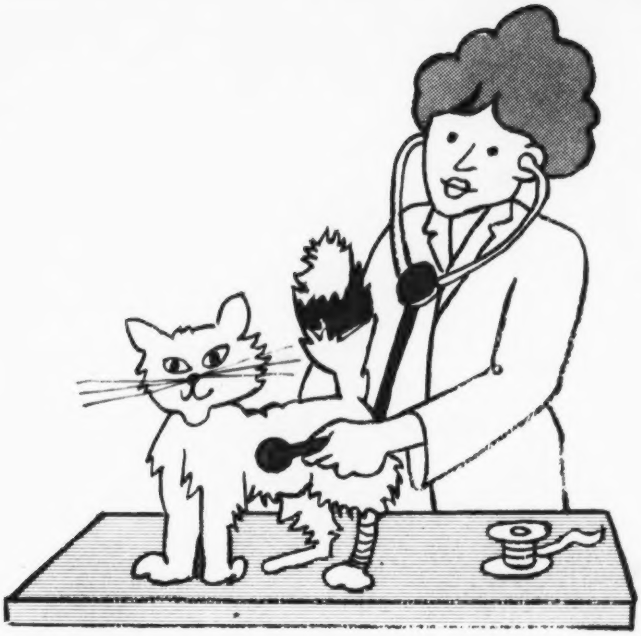
When it is time for milk, it will be late because you have pre-arranged it to be. Send for a kitchen helper. The lunch room helper will explain a reason for the lateness and then describe his/her job to the class.

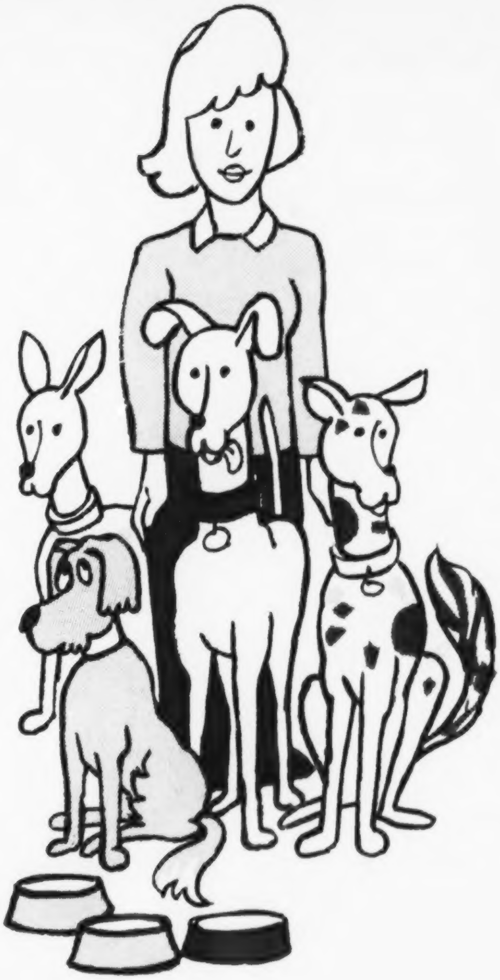
Once the students have met two workers, ask them to tell of others who help at school. Once they have listed all the school personnel, ask them what would happen if the principal, secretary, janitor, teacher aide, or others were absent. Have them discuss the implications and draw the conclusion that the school needs all of its helpers to make it operate efficiently.

Children could then develop a thank you song for all the people who help at school. It could be written to the tune, "London Bridge". Following is a sample version:

"Thank you for your help today,
Help today, help today.
You were very kind to us
To clean the mess away."

Students could add new words they learn in their vocabulary notebooks such as custodian, elementary guidance counselor, speech therapist, psychologist, and secretary.



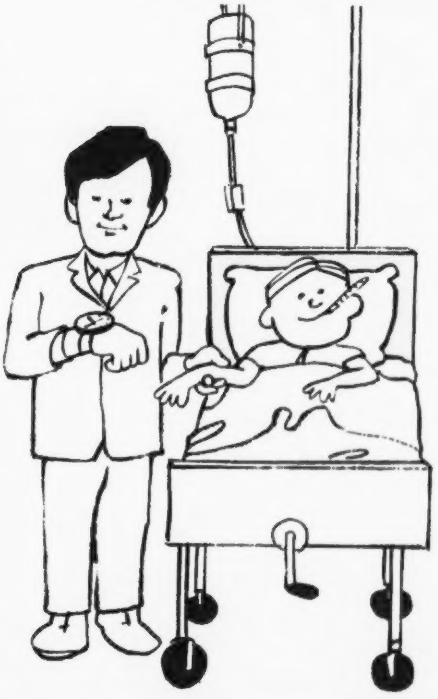


Kennel Keeper & Veterinarian

Since the curriculum in most primary programs involves a good deal of study of the animal kingdom, it will enhance the children's career awareness to tie in the people who work with animals whenever possible.

A kennel keeper who is in business for himself/herself could explain the work involved with the dogs and what it is like to be in business for oneself as opposed to being an employee of a larger organization.

A veterinarian could share his/her work, as well as explain proper care of pets to the students. The students could then think of all the occupations which tie in with animals.



Nurse

Since students develop stereotypic attitudes toward work by the time they reach first grade, a good way to start them thinking about expanding their options would be to invite a male nurse to class to discuss his work. In addition to learning about the occupation, the students would also gain a better understanding of the folly of sex role stereotyping. A discussion of traditionally sex role stereotyped occupations could follow. Hopefully, the outcome would be that very few, if any, jobs should be limited to one sex or the other.

Police Officer

As part of a unit on workers who help us (firefighters, the medical profession, and social workers) build an activity around the police officer.

Discuss how the police are portrayed on television and the duties real police do in our community. Since some people do not appreciate the work the police do, ask the students to think about how our communities would run if there were no police officers.

Invite a police officer to class and ask him/her to tell what the job is really like (as opposed to the television image) and focus on ways in which the police help children, particularly when a child becomes lost. Many schools use law enforcement personnel as resources when implementing drug and alcohol prevention and education programs.

When the activity is over, discuss with the children steps they could take if they should ever become lost. Talk together about other situations which could arise when children might require assistance from a police officer.

3—4 Activities

Work and the Assembly Line

Welder
Lathe Operator
Quality Control Technician

A common theme in grades 3-4 is the idea of independence/interdependence. In addition to looking at the uniqueness of each of these jobs through use of guest speakers or field trips to their places of work, it would be a good idea to study, in depth, the concept of interdependence. An excellent way to teach interdependence is to develop and operate a classroom factory simulation which will produce, for profit, a particular product. A sample, involving all the elements of career education, follows:

1. Discuss with the students the difference between creating something independently and creating a product as a group. Ask them how they think it would feel to be part of an assembly line. Could they get the same feeling of achievement and satisfaction working as a group as they would completing something independently? (The element of self awareness).
2. As a group, have the students decide what they will make, what they will do with the money they earn, and how much money they need to make. Sample items to produce could be necklaces, bracelets, and paper flowers. (The element of decision making).
3. Once the product has been determined, decide what materials need to be purchased. Do comparison shopping to determine the best buys for your money. (The element of economic awareness).

4. Once the comparison shopping has been done, figure the amount of money needed to buy the materials. Take out a loan from the bank. A way to do this would be talk with a banker ahead of time, and then have a small group of students talk with the banker to finance the loan. Of course, you will have to teach the group about obtaining bank loans, interest rates, etc. (The elements of career and economic awareness).

5. Once the loan is arranged and the materials are purchased, the assembly line and other departments of the factory must be established. The departments could include advertising and order taking, bookkeeping, packaging, and management (usually the teacher). A wide variety of occupations will exist in the assembly line, such as cutters, sewers, gluers, and assemblers. (The element of career awareness).
All students in the class must apply for and be interviewed for the various jobs. (The element of employability skills).

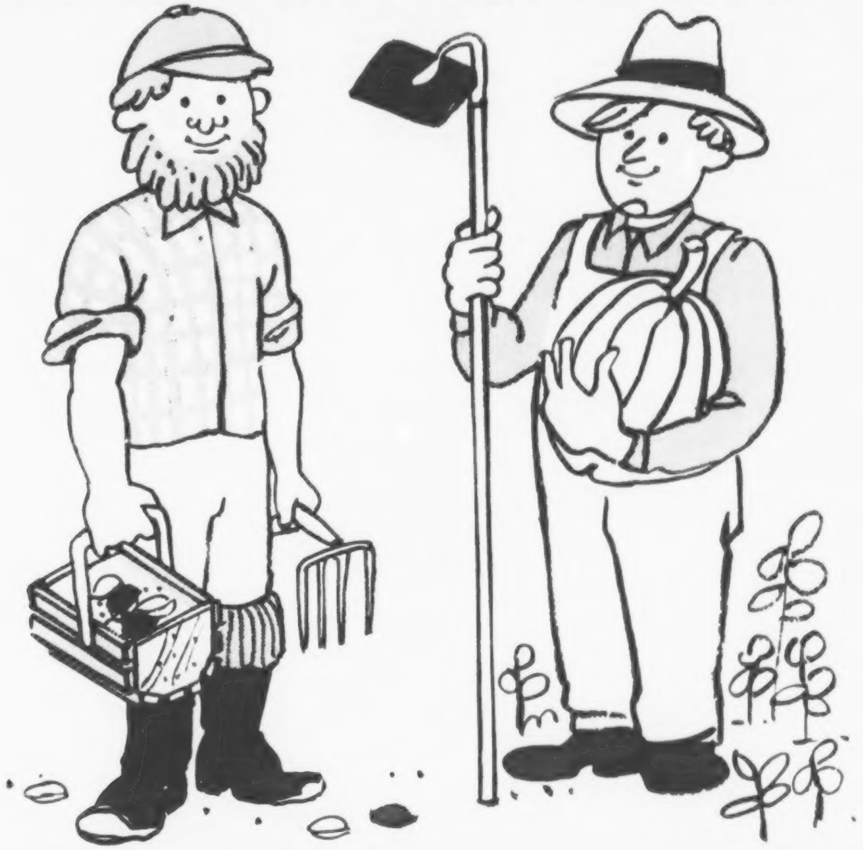
6. Put the factory in operation. You will probably need one-hour blocks of time at scheduled periods throughout one or two-week periods in order to complete the activity.

7. While operating the factory, ask the students what type of education is necessary to be able to perform the various tasks. (The element of educational awareness). Ask them if they consider some jobs to be more prestigious than others. What would happen if one person neglects his/her job or is absent? (The element of appreciation and attitudes).

8. Once the factory experience is completed, the loan has been paid, and the profit has been spent, ask the students how they felt about working interdependently. Would they like work that involved them to be interdependent on other workers? How many types of jobs or places of work can they think of where one must work interdependently? (The elements of self and career awareness).

Work and Independence

The flip side to the concept of interdependence is, of course, independence. Both the occupations of clam digger and farmer fit this category. In looking at both occupations, the students should look for the advantages and disadvantages of being independently employed.



Clam Digger

As part of a science unit on natural resources, particularly in Maine, the occupation of clam digging could offer many interesting sidelights. The problems clam diggers encounter such as severe cold, red tide, depletion of clam flats could be studied in conjunctions with climates, disease, and conservation.

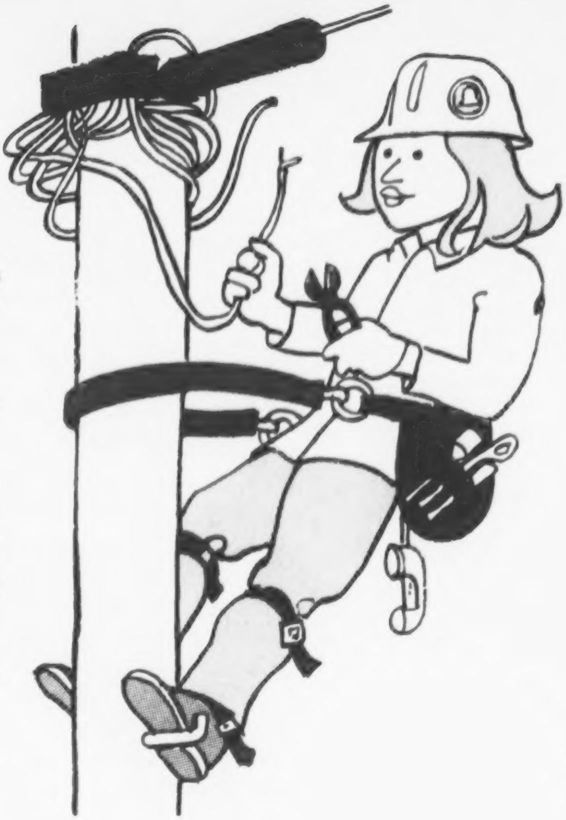
A clam digger could visit the class and explain what it is like to be independently employed. The digger should be encouraged to stress both advantages and hardships. After the visit, the students could discuss what types of personality traits are necessary to become a clam digger, i.e. perseverence, physical endurance, determination, and willingness to take risks.

Farmer

For years, children have visited farms, basically to see the animals and see how they live. This same activity can be enhanced by looking at the occupations in farming—dairy, vegetable growers, sheep farmers, potato farming, as examples. The children could discuss ahead of time as part of a social studies unit (1) why Maine farmers in the late 1800's moved to the midwest to farm, and (2) the potato growing industry in Aroostook County—how small farmers have been pushed out and only the large growers can make a living now. In reading, the students could read stories about farming today and in the past.

Prior to the actual visit to the farm, the students could plan a list of questions for a career interview with the farmer. After the trip, the students should write a thank you note to the farmer. They could write a report about the occupation of farming and their feelings about it, and enter new words they have learned (i.e. husbandry, herdsman, foal, etc.) in their vocabulary notebooks.

Utility Worker
Telephone Operator

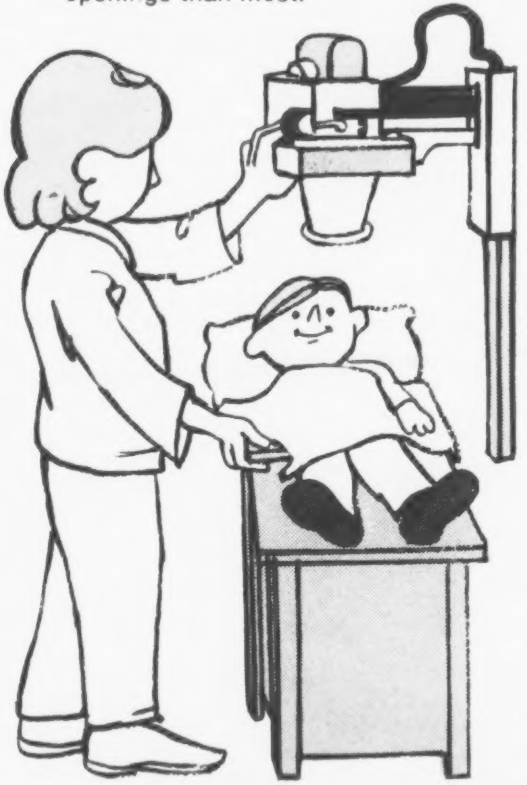


Public careers involve a wide range of services people perform for the good of others as opposed to producing a particular product for consumption. At the third and fourth grade levels, the New England Telephone Company has equipment and lesson plans for classroom use free of charge. The teacher merely needs to contact the local telephone business office to reserve a time for its use.

In conjunction with this activity, (or accompanying a lesson on telephone etiquette), the students could study careers involving telephones. A telephone operator could visit the class to describe his/her job with students. A utility worker who installs and repairs telephone lines could also visit the class and describe outdoor work as opposed to indoor. Related occupations and utilities could be shown, such as jobs in electrical companies, gas companies, and water companies. To foster appreciation for this type of work, students could write a story about a utility worker who helps people on a stormy night or a telephone operator who gets help for a family when their house catches fire.

X—Ray Technician Interpreter for the Deaf

Helping professions make up a large portion of the work force and their numbers are growing. The medical profession is one of the fastest growing areas of employment and has more job openings than most.



X—Ray Technician

In a science class concerning parts of the body, an X-ray technician could visit the group to describe his/her work with the body and the technology involved in making X-rays. Students could look at the wide realm of occupations related to an X-ray technician both in and out of the health field.

Interpreter for the Deaf

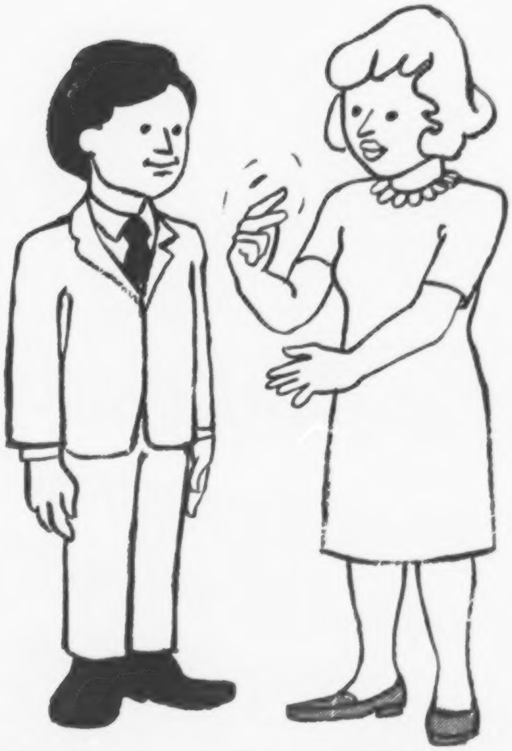
To develop an understanding and appreciation for handicapped people, the teacher could lead a discussion on contributions handicapped people make to society despite their handicaps. Have the students read the biography of Helen Keller, and invite an interpreter for the deaf to visit the class. Hopefully, the students will learn to see the handicapped as people with strengths and weaknesses and needs just like the rest of us, as well as learn about occupations which deal with helping handicapped people. The teacher can also point out that sign language is an alternative communication method. Other areas of study could include research on how technology can help the handicapped.

Surveyor

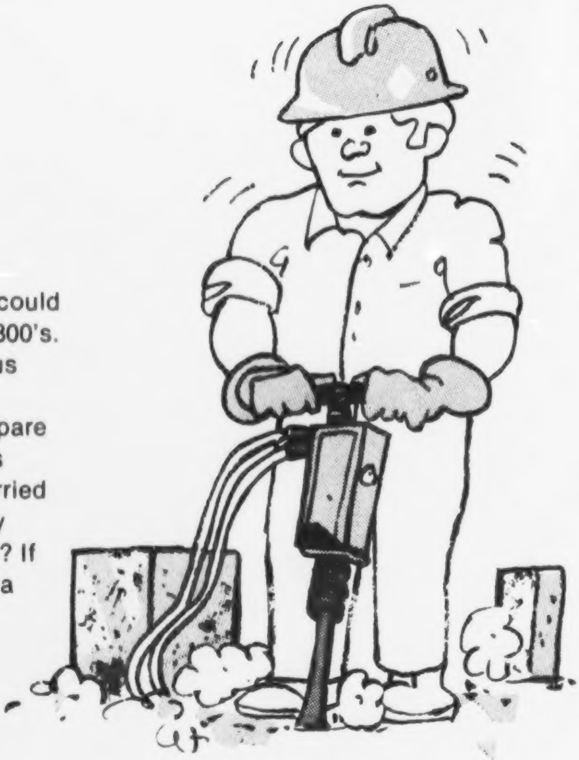
The surveyor also works with natural resources and is often involved in map making. Study of this occupation could be aligned with study of topography in science and development of map reading skills in social studies. Students could visit a surveyor on location or invite one to class to discuss his/her work and relate it to what the students are studying. Special math lessons could be designed that relate to the work of a surveyor.

Zoologist

As the farmer deals with animals, so does the zoologist. However, this occupation requires a great deal more formal education and training than does farming. The teacher could compare and contrast the occupations of farmer and zoologist in terms of working with animals, working conditions, and the types of educational programs leading to various careers.



5—6 Activities



Quarry Worker

As part of a social studies unit, the students could investigate the granite quarry workings of the 1800's. It would be fun for them to discover what famous buildings throughout the United States were constructed with granite from Maine. Then compare the work of the past with the quarry work that is done today. What are the products that are quarried today used for? What is the life style of a quarry worker today compared to workers in the 1800's? If possible, invite a quarry worker to class or visit a quarry worker on site.

Guide

As the students study history, particularly the periods when wilderness had to be explored and tamed, discuss with them the vast amount of wilderness areas that still exist in Maine. Hopefully, the students will appreciate this Maine heritage and want to help preserve and conserve this resource. One career which relates to this is, of course, the guide. A Maine Guide could talk with the class about his/her occupation stressing the importance of maintaining our wilderness areas for generations to come. Once the visit is completed, the students could write about their feelings towards the Maine wilderness and how they, themselves, can help preserve it.

Diver

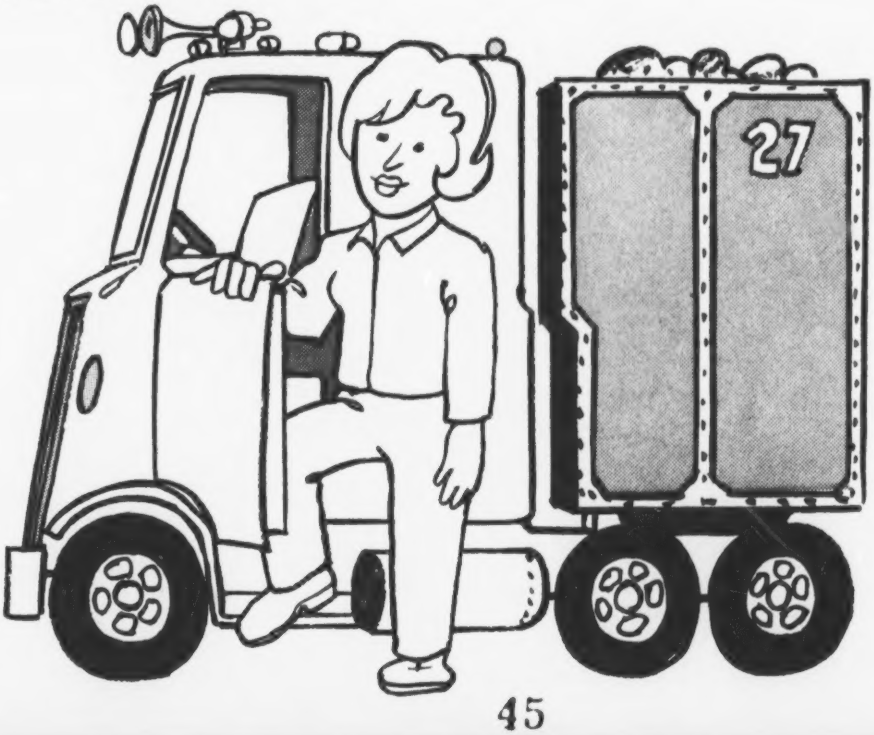
Have students read a short story about a diver.

Many people think a diver leads a glamorous life diving for sunken treasures or pearls. Have students practice research skills by investigating the occupation of a diver through the *Occupational Outlook Handbook* and the *Dictionary of Occupational Titles.*

After reporting their findings, if possible, invite a diver to class. After the visit, have the students write compositions describing their reactions to this occupation.

Truck Driver

As part of a transportation unit in social studies, the students could investigate how trucking, to a great extent, has replaced the railroad system in America as a means of transporting goods. Have students practice map reading skills by giving them a series of starting places and destinations for which they must plan routes for a truck driver to reach as efficiently as possible. Ask a truck driver to bring his/her 18-wheeler to school to do a demonstration for the students as well as talk with them about his/her career. The truck driver should stress safety procedures and the responsibilities truck drivers have on the road. Following the demonstration, the students could write a report describing how trucking affects American economics and/or how the trucking lifestyle appears to them.

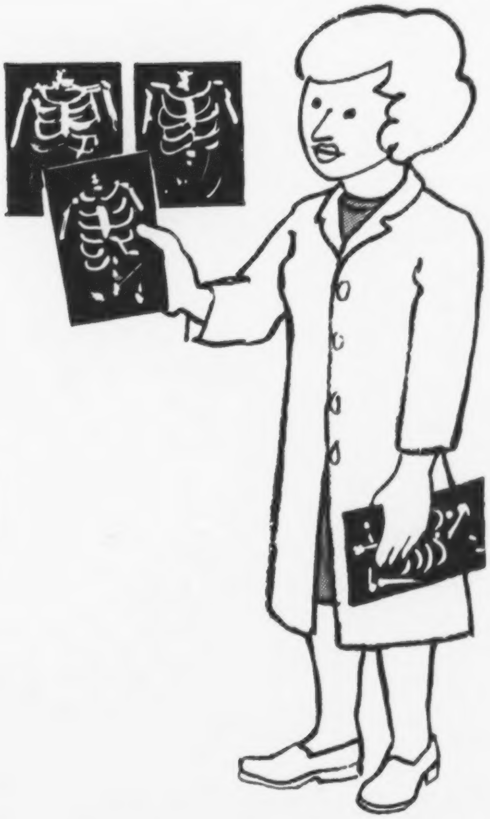


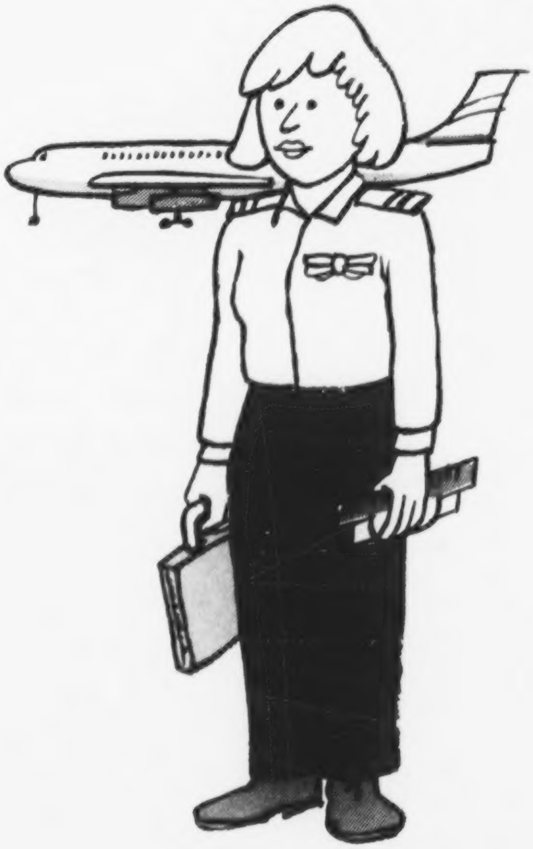
Airplane Pilot

As part of the same transportation unit, invite an airplane pilot to visit the class to talk about his/her work, stressing personality characteristics required and the education and training necessary to be a pilot. Have the students investigate related occupations and give oral presentations on careers in air travel.

Radiologist

In a science unit involving parts of the human body, invite or visit, on site, a radiologist to learn about his/her career as well as techniques in radiology for ridding the body of disease. Upon completion of this activity, the students could investigate, as a group, the wide range of medical occupations that exist. One way to start would be to look for each medical occupation in the ABC cards. Then, have each student write his/her feelings about working in a helping profession, including the advantages and disadvantages.





News Reporter

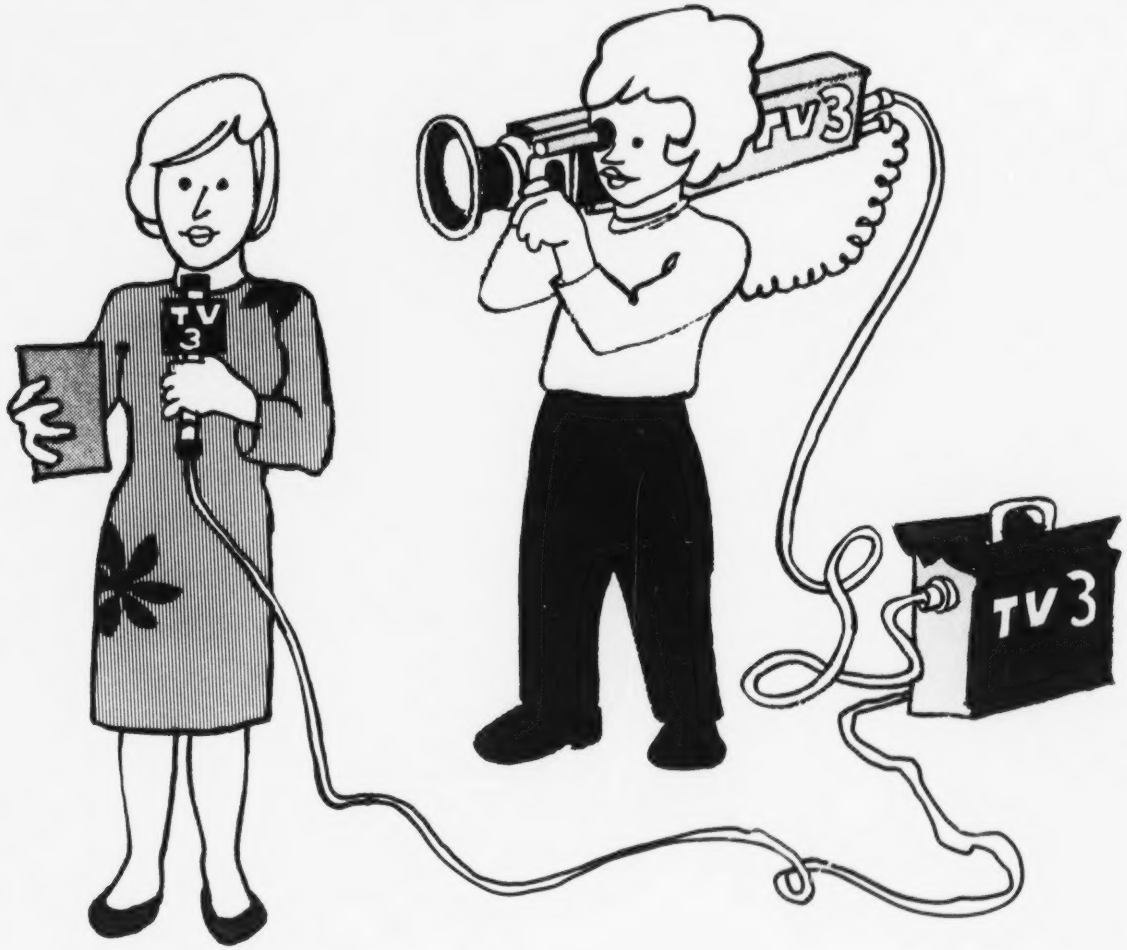
In a language arts project, the students could study careers related to writing, focusing, in particular, on the news reporter. Once they have researched this occupation, they should interview a news reporter about his/her career just as if they were actually conducting a news interview. When the interview is completed, they should visit a newspaper, a radio news station, and a television news station to look at the variety of occupations in the news field. After the visits, the class could divide into two groups, one simulating a newspaper staff and one simulating a television news stations. This would be a good opportunity to use video tape recording equipment.

Newspaper Simulation Procedure

1. Identify the jobs necessary to produce a class newspaper
2. Have students apply for the various jobs; teacher and/or resource people in the newspaper field will do the hiring
3. Have the news reporters and editor decide what news will be included in the newspaper
4. Do interviews and write articles
5. Print the class newspaper in the most similar way possible to actual practice, but feasible for your school (If your school has a word processing micro computer, this could be used to type right-justified columns)
6. Distribute papers to the class
7. Have students describe their reactions to the class

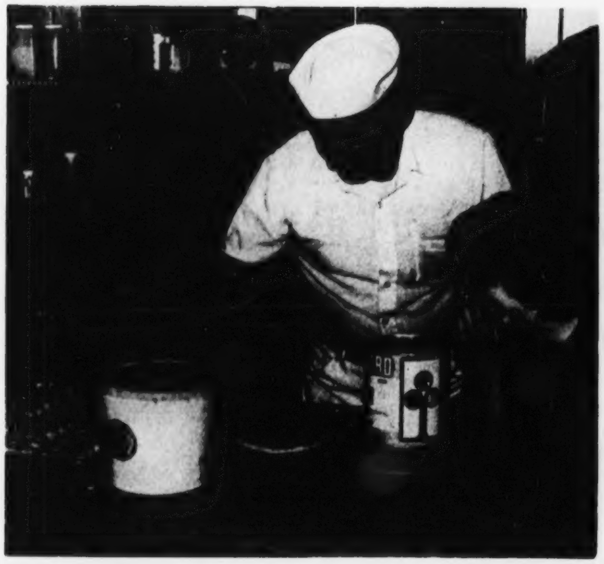
Television News Station

1. Identify the jobs necessary to produce a television news show
2. Have students apply for the various jobs; teacher and/or resource people in television news should do the hiring
3. Have the station manager and anchor person decide what news will be featured
4. Do interviewing and, if possible, video-tape material for the news broadcast
5. Do the news broadcast with the rest of the class observing
6. Have the students discuss their reactions to the simulation



Shipfitter

One of Maine's largest employers is Bath Iron Works. If travel is possible, a field trip to this major industry would expose children to a variety of industrial careers. Before going, have the children study "shipfitter" and other occupations represented at BIW such as welder, yard worker, and others in the *Occupational Outlook Handbook* and the *Dictionary of Occupational Titles.* They should decide which type of workers they want to interview and what questions they want to ask. When they get to the Iron Works, they could interview the workers in mini groups or as a whole class. Once they return from the trip, they can summarize their findings by creating a bulletin board on careers at Bath Iron Works.



Dear Bernie and Darlene,

Thank you very much for letting us visit your Wine and Cheese Shop. I liked it. I liked it when Bernie ran the dough through the Dutchess. It was fun when we made rolls. But, Bernie, why did you smoosh the pretty rolls?, ?. The French bread was fun too.

I thought it was fun, too, when we watched Darlene use her cash register. If my mom doesn't buy me something from your shop I am going to be mad at her! Again, thank you very much.

Sincerely,
Tessa Joseph.

Chapter 5

ADDITIONAL ELEMENTARY RESOURCES

Work Education Resource Center

The availability of up to date resources for use in the elementary classroom is essential for the development of creative and stimulating lessons. Following is a list of materials available from the Work Education Resource Center. Many of the federal and state publications can be purchased for your guidance or classroom library.

The Work Education Resource Center is a lending library which is run by the Maine Occupational Information Coordinating Committee. Materials are reviewed and updated annually. For additional information, contact the MOICC at (207)289-2331. Following is a list of recommended materials appropriate for elementary classroom use.

RECOMMENDED SOURCES

American Women in Science (Biography Series)
Aspirations
Career Awareness Program, K-6—South Portland
Career Discovery Encyclopedia
Career Education Activities for You
Career Education Curriculum Guide, K-6—Bangor
Career Education Exchange Curriculum Guides:
    Self-Awareness, K-3
    Communications, Grade 5
    Women in Maine, 4-6
Career Education: Some Essential Learner Outcomes—
    Primary and Intermediate Grades
Children's Dictionary of Occupations
Decision Making Dimension Guide, K-6
Decision Making for Success in Life
Exploring the Future
Future Options Unlimited
Future Think
Good Apple and Career Education
How to Become an Expert
Introducing the World of Work
Kindergarten Curriculum for Conceptual Language Development
Learning to Think and Choose
Lifestyle Dimension Guide, K-6
Magic Carpet Grades 3-4
Me/? A Curriculum for Teaching Self-Esteem in the Classroom
Project Self-Esteem
Seeing What I Can Be
Self-Esteem: A Classroom Affair
Sweet Pickles Service
Teacher Developed Curriculum Modules:
    Basic Curriculum, K-6, All subjects

continued

Teacher Developed Infused Curriculum Modules:
K-6, All subjects
Women the Brave Silent
You Choose You: A Student Handbook

TEACHER RESOURCES

Barnstable Instructional Career Education Program Materials
Feeling Good About Me
How to Raise Children's Self-Esteem
Learning Style: Teaching Strategy and the World of Work: The Maine Idea
The Quicksilver Years: The Hopes and Fears of Early Adolescents
School and Business Partnership
Teaching Training—A Strategy for Teaching Values
Teaching Training—A Strategy for Teaching Social Development
What Impact Is Career Education Having

CAREER INFORMATION RESOURCES

Federal Documents:

The Occupational Outlook Handbook
The Guide to Occupational Exploration
The Dictionary of Occupational Titles
Selected Characteristics of the D.O.T.
The Standard Occupational Classification System Manual
The Occupational Outlook Quarterly

State Documents and Curriculum Materials:

* *The Maine Job Box*
* *The CIDS Primer*
* *The Maine Guide*
* *Building Blocks for the Future: An Elementary Career Education Activity Guide*
* *Planning to Realize Educational Potential (P.R.E.P.)*
* *Future Builders*
* *W.E.R.C. Resource Bibliography Listings*
* *Labor market information publications developed by the Division of Economic Analysis and Research, Maine Department of Labor*

ADDITIONAL RESOURCES:

Vocational Curriculum Resource Center of Maine, Kennebec Valley Technical College, Western Avenue, Fairfield, ME 04937. (207)453-9762 *Electronic Bulletin Board:* MEVOCNET—(207)453-7669

Contact *The Information Exchange,* Maine State Library, Station #64, Augusta, ME 04333. (207)289-5620 or 1-(800)322-8899.

Available Data bases:

1. Educational Resources Information Center
2. Audio/Visual Online
3. Maine Resource Bank

Maine State Library: DIALOG: An Index to Government Documents
INFOTRAK: An Index to 400 Periodicals

THE ABC'S AND OCCUPATIONAL CLASSIFICATION SYSTEMS

By becoming more familiar with career information delivery, one becomes aware of the many ways researchers have developed classification systems for coding occupations and their characteristics. The classification system used within the ABC's is that found within the **DICTIONARY OF OCCUPATIONAL TITLES**. This system assigns unique 9-digit codes to each job title found within the dictionary.

The first three digits identify the nine occupational groups. The chart below depicts the occupational groups which are identified by the first digit of the first three digits of the 9-digit D.O.T. number.

The Nine Occupational Groups of the D.O.T.

0/1	Professional, Technical and Managerial Occupations
2	Clerical and Sales Occupations
3	Service Occupations
4	Agricultural, Fishery, Forestry, and Related Occupations
5	Processing Occupations
6	Machine Trades Occupations
7	Bench Work Occupations
8	Structural Work Occupations
9	Miscellaneous Occupations

The ABC curriculum focuses upon the middle three digits of the D.O.T. Every job requires a worker to function to some degree in relation to data, people and things. The chart below presents the worker's relationship to each of the worker task areas.

D.O.T. WORK TASKS

DATA (4th Digit)	PEOPLE (5th Digit)	THINGS (6th Digit)
0 Synthesizing	0 Mentoring	0 Setting UP
1 Coordinating	1 Negotiating	1 Precision Working
2 Analyzing	2 Instructing	2 Operating-Controlling
3 Compiling	3 Supervising	3 Driving-Operating
4 Computing	4 Diverting	4 Manipulating
5 Copying	5 Persuading	5 Tending
6 Comparing	6 Speaking-Signaling	6 Feeding-Offbearing
	7 Serving	7 Handling
	8 Taking Instructions-Helping	

When implementing the ABC curriculum take time to examine the codes of the D.O.T. and help your students understand the relationship that exists between the work tasks they do at school and those they will eventually perform in the world of work. The last three digits of the D.O.T. codes merely ensures that each occupation's code is unique.

Listings, Dictionary of Occupational Titles:

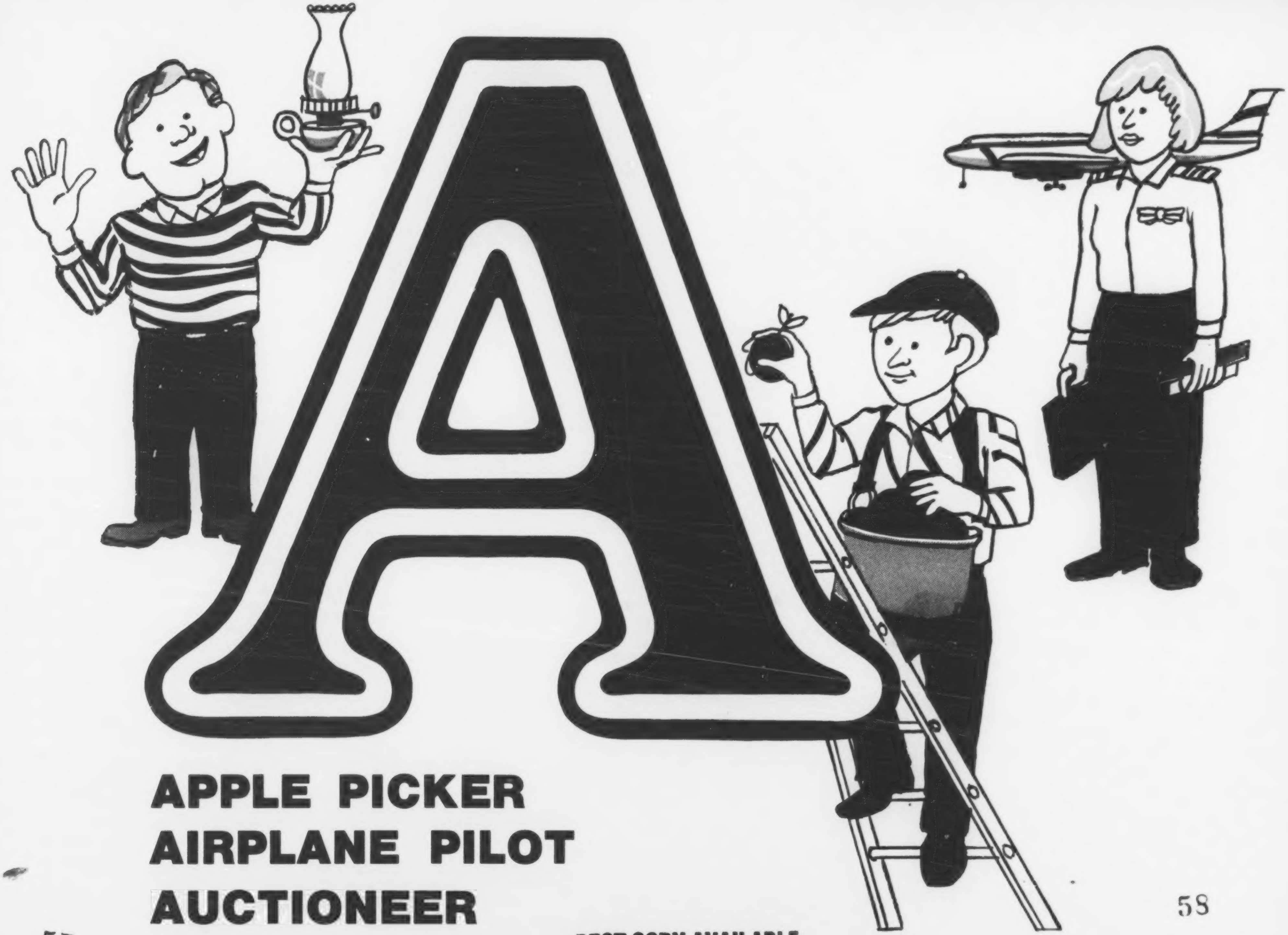
APPLE PICKER	409.131-010
AIRPLANE PILOT	196.263-014
AUCTIONEER	294.257-010
BAKER	526.381-010
BOTANIST	041.061-038
BOAT BUILDER	860.381-018
CARPENTER	860.381-022
COMPUTER PROGRAMMER	007.167-018
CLAM DIGGER	446.684-014
DANCER	151.047-010
DENTIST	072.101-010
DIVER	899.261-010
EARMUFF MAKER	784.687-022
EDITOR	132.067-014
ENTOMOLOGIST	041.061-046
FARMER	421.161-010
FIREFIGHTER	373.364-010
FORESTER	040.061-034
GEOLOGIST	024.061-018
GUIDE	353.161-010
GYM TEACHER	187.137-010
HAIRSTYLIST	332.271-018
HAND SEWER	788.684-054
HORSE TRAINER	419.224-010
ICE CREAM MAKER	313.381-034
INDUSTRIAL TRUCK DRIVER	921.683-050
INTERPRETER FOR THE DEAF	137.267-014
JANITOR	382.664-010
JEWELER	700.281-010
JUDGE	111.107-010
KENNEL KEEPER	410.674-010
KEYPUNCH OPERATOR	203.582-030
LATHE OPERATOR	690.680-010
LOBSTER FISHER	441.684-014
LOGGER	454.684-018
MAIL CARRIER	230.367.010
MASON	861.381-018
MECHANIC	620.261-010
NEWS REPORTER	131.267-014
NURSE	075.374-010
OPERATOR (Telephone)	235.462-010
OPTOMETRIST	079.101-018
OFFSET PRESS OPERATOR	651.685-018
PHOTOGRAPHER	143.062-030
PLUMBER	862.381-030
POLICE OFFICER	375.263-014
QUALITY CONTROL TECHNICIAN	012.261-014
QUARRY WORKER	939.667-014
QUICK SKETCH ARTIST	149.041-010
RADIO ANNOUNCER	159.147-010
RADIOLOGIST	070.101-090
RECEPTIONIST	237.367-038
SHIPFITTER	806.381-046
SHOEWORKER	788.381-014
SURVEYOR	018.167-018
TAILOR	785.261-014
TRUCK DRIVER	905.663-014
TYPIST	203.582-066
UNIVERSITY PROFESSOR	090.227-010
UPHOLSTERER	780.381-018
UTILITY WORKER	821.361-018
VETERINARIAN	073.101-010
VIDEO CAMERAPERSON	143.062-022
VIOLINIST	152.014-010
WALLPAPER HANGER	841.381-010
WELDER	810.384-010
WHEELWRIGHT	706.381-046
X-RAY TECHNICIAN	199.361-010
XYLOGRAPHER	761.281-010
YARD WORKER	929.133-010
YARN WEAVER	683.682-038
YEOMAN	221.382-010
ZOO KEEPER	412.674-010
ZOOLOGIST	041.061-090

Words and Phrases

Certain words and phrases are unique to the World of Work. Therefore, vocabulary study is important when one is exploring the work world. Following is a sample listing of words and phrases found within the text on the ABC cards. Students can use this listing and other words on the cards to understand (1) words that relate to work settings and (2) the variety of tools associated with occupations.

Airplane pilots — freight
Apple pickers — bushel
Auctioneers — bidder, bid
Bakers — recipes, measure
Boat builders — drawn plans, celebrate
Botanists — environment, atmosphere
Carpenters — hand vs. power tools, building materials
Clam diggers — clam rake
Computer programmers — symbols
Dancers — emotion, instructor, mood
Dentists — hygienists, assistant
Divers — services, propellers
Earmuff makers — patent, invention, factory
Editors — designers
Entomologists — pollinate
Farmers — specialized, soil
Fire fighters — community, artificial respiration, techniques
Foresters — manage, recreation
Geologists — government
Guides — wilderness
Gym teachers — supervise, posture, physical growth
Hair stylists — features, solutions
Hand sewers — craft
Horse trainers — thoroughbred, breed
Ice cream makers — decorate, chefs
Industrial truck drivers — device, booms, clamps, industry
Interpreters — language, broadcasts, translate, impaired
Janitors — general appearance
Jewelers — polishing wheel
Judges — testimony, open-minded, evidence
Kennel keepers — schedule, disinfect
Keypunch operators — punch cards, magnetic tape, automatic, data processing equipment
Lathe operators — lathe, intricate
Lobster fishers — distinctly
Loggers — cord
Mail carriers — vehicles, readdress
Masons — mortar, trowel
Mechanics — customers, install
News reporters — assignment
Nurses — responding, treatment
Offset press operators — printing plates
Operators — reversed, emergency, switchboard
Optometrists — examine, prescribe
Photographers — personality
Plumbers — hydraulic, company
Police officers — communities, investigate
Quality control technicians — products, reliable, manufacturing, electronics equipment
Quarry workers — extract, monitor, remote control panels, principal, monument
Quick sketch artists — pastels, medium
Radio announcers — duties, announce, pronunciation, usage
Radiologists — diagnose, fluoroscope, radioactive isotopes, therapeutic, technologists
Receptionists — arrangements, distribute, appointments
Shipfitters — fasteners, welded, riveted, foundation, assemble
Shoe workers — decorations
Surveyors — techniques, determine, boundaries, compile, aerial
Tailors — garment
Truck drivers — transport, maneuvering, distance
Typists — stencil, clerk, combine, transcribing, dictation
University professors — encourage, exams, closed circuit, literature, research
Upholsterers — fabric, antiques, preserved
Utility workers — erect, transmits, high voltage
Veterinarians — advise, research
Video camerapersons — specialize, settings
Violinists — professional, symphonies, orchestras, quartets, practice
Wallpaper hangers — seams
Welders — permanently, partially
Wheelwrights — discs, pry bar
X-ray technicians — diseases, technician, supervision
Xylographers — impressions
Yard workers — employed, instructions
Yarn weavers — textile
Yeomen — clerical, compared, organize, nautical, executive
Zoo keepers — transfer, locations, exhibits
Zoologists — behavior, species, conduct, specimens, body processes, fields

Notes and Ideas



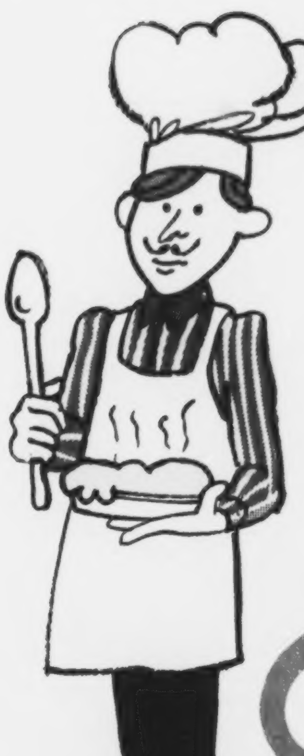
APPLE PICKER
AIRPLANE PILOT
AUCTIONEER

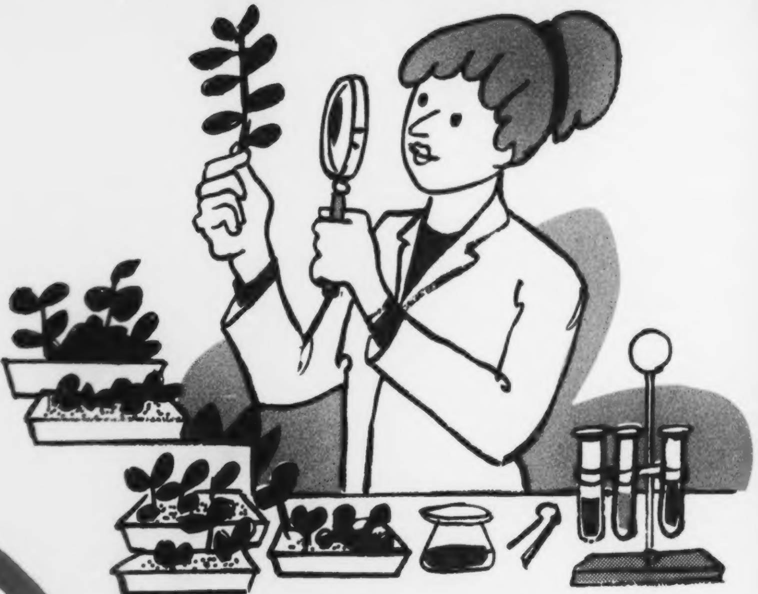
AIRPLANE PILOTS must do many things besides fly the airplane. They must make sure that passengers, mail, and freight arrive safely. Before each flight, the pilot must check load weight, fuel supply, the weather, and the schedule. The airplane pilot must then order any changes to make the flight safe. Many farm states have agricultural pilots. They fly airplanes or helicopters over farm fields. Agricultural pilots spray farm fields with seeds, fertilizers, and insect killers. These pilots must tell farmers to move their animals out of the spray area.

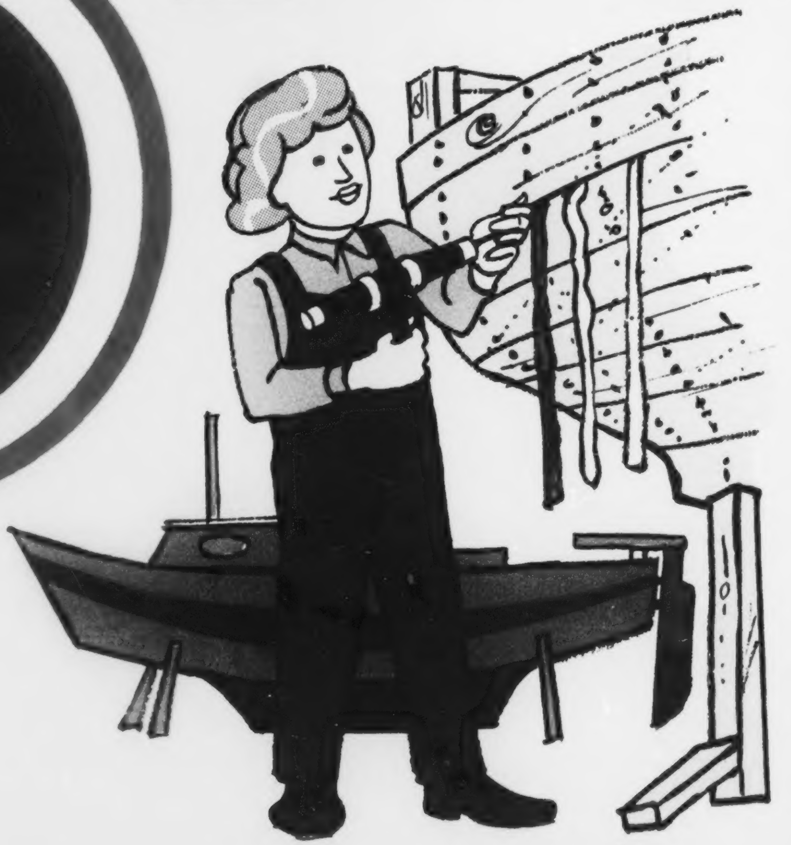
APPLE PICKERS generally work from early in September through late in October. About two million bushels of apples are picked by hand, in Maine, each year. This is many more than Maine people can use. The largest part of Maine's apple crop is shipped out of state. Trailer trucks carry them to New York and Massachusetts. Apple pickers use ladders and special picking buckets. They are trained to pick the apples so as not to bruise them. Apple pickers are paid only for the amount of apples they pick. Some pick by the bushel, some by a standard box. Some pickers work a full week. Others work half days or after school.

AUCTIONEERS sell items to the highest bidder. That is the person who is willing to pay the highest price. Most auctioneers in the State of Maine sell antiques. They also sell farm animals, cars, art, and even houses, at auction. The auctioneer first decides how much an article is worth. He or she describes the item being sold. Often, auctioneers will ask for a starting bid. Some auctioneers call out the numbers being bid in a fast, high-pitched chant. They sound almost like they are singing. When the bidding ends, the auctioneer shouts "sold". Then the next piece to be sold is put up for bid. Auctioneers make auctions a lot of fun.

B







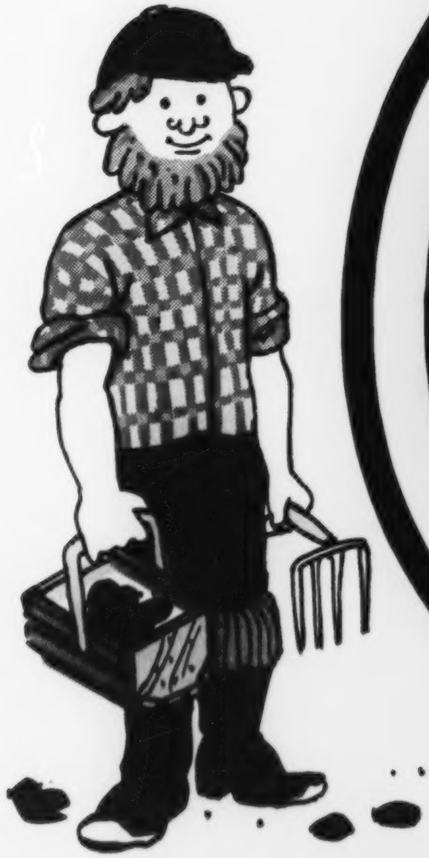
BAKER
BOTANIST
BOAT BUILDER

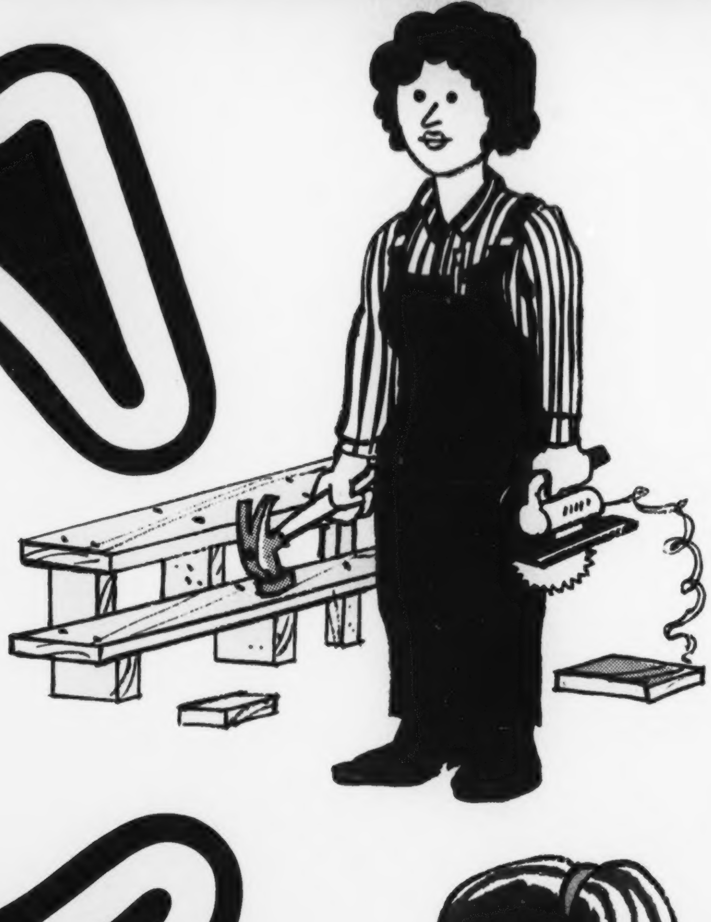
BAKERS follow recipes to mix and bake breads and desserts. They make breads, pies, cakes, cookies, and other baked goods. When they bake for lots of people, bakers use big mixing machines. They also use very large bowls and ovens. They measure and mix everything carefully. Hotel and restaurant bakers must decide how much to bake. They think about how many customers they will be serving. Bakers may do only one kind of baking. Some are bread bakers only while others are pastry bakers. Many bakers make up their own recipes.

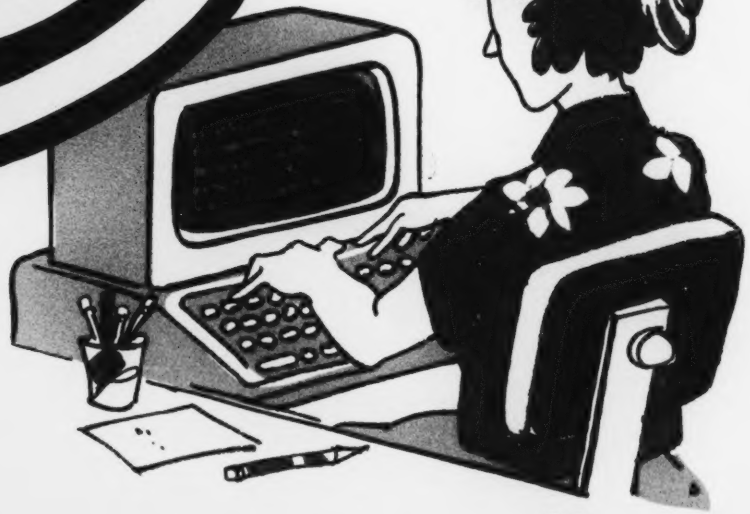
BOAT BUILDERS make and repair wooden boats. They use hand tools, power tools, and special measuring instruments. They follow drawn plans carefully. Boat builders may have special duties. Some may build the pilot house. Some may install the sailboat mast. Some may build cockpits or cabins. Boat building is an old and respected craft. This is especially true in Maine. When a new boat is launched, everyone celebrates. Each person who worked to build the boat feels very proud when it goes into the water for the first time.

BOTANISTS study the way plants grow and live. This work is very important. All of our food comes from plant life in some form. Botanists watch to see what rain, temperature, soil, and other factors do to plant life. The study of plant life has shown us how to protect the environment. Plants are necessary for humans and animals to live. Therefore, the work of botanists is valuable to each of us. Without plants, for example, the atmosphere would fill up with carbon dioxide. People and animals would die. Botanists work to get rid of plants that cause diseases. And they make sure that the plants we need continue to grow.

C





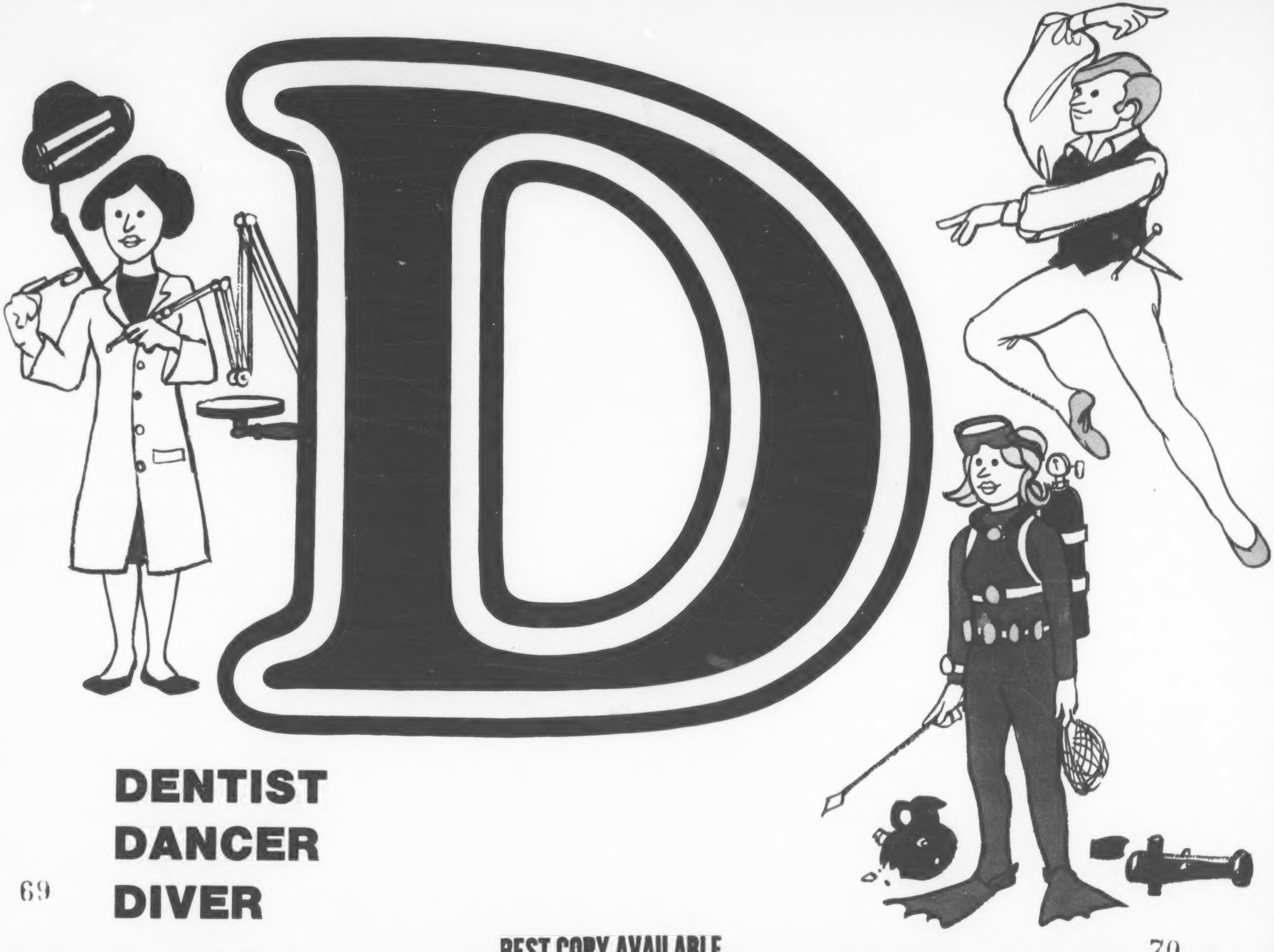


CARPENTER
COMPUTER PROGRAMMER
CLAM DIGGER

CARPENTERS build and fix buildings and other things. They use special hand and power tools. Most carpenters work with wood. Some also work with metals and plastics. Carpenters must know about building materials. They must also be able to follow written and drawn directions. There are two kinds of carpenters. Rough carpenters build the outside of a house or school. Finish carpenters hang doors and windows, put on wood trim, and lay floors. Some finish carpenters design and make cabinets and furniture.

CLAM DIGGERS must work the ocean tides to make their living. They can only dig clams when the tide is out. They use clam rakes, made with long tines and short handles. Clam diggers bend over and pull the heavy mud loose to find the clams. They need strong backs. Most clam diggers work for themselves. They sell what they dig to markets, restaurants, and seafood stores. Many Maine high school students dig clams as a summer job. Clam diggers cannot dig year round. They do other jobs, like carpenter work, when it is too cold to dig.

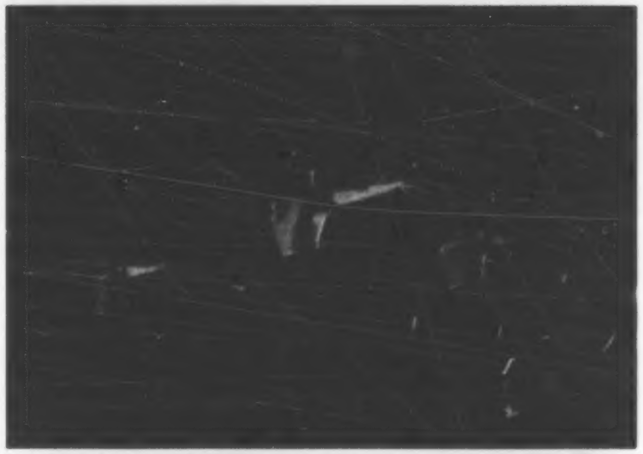
COMPUTER PROGRAMMERS tell the computer exactly what to do. A computer cannot solve a problem without the help of a programmer. The set of instructions that tell the computer what to do is called a program. Many computer programs are long. The programmer must check them carefully. Sometimes the computer doesn't do what it should. Then the programmer must find his mistakes and correct them. The programmer writes the program in a special language of words and symbols. The language used depends on the computer and the job to be done. Computers are used to solve many kinds of problems.



DENTIST
DANCER
DIVER

D

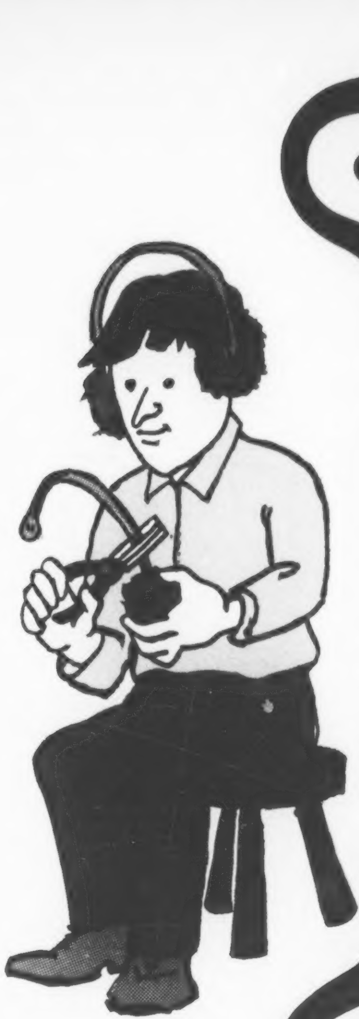
DANCERS perform alone, with a partner, or in a group, for an audience. A dance may tell a story, set a mood, or show an emotion. There are many forms of dance – acrobatic, ballet, ballroom, chorus, tap, and others. Many dancers become instructors. They explain and show many ways to move the body to music. Dance instructors may also teach the history of dance. Dancers must keep their bodies healthy and trim. Like musicians, they must always practice their art.

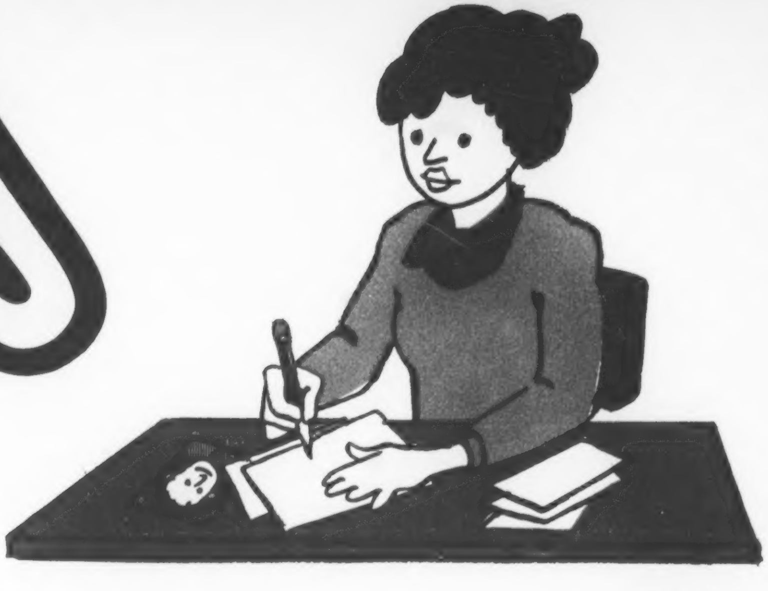


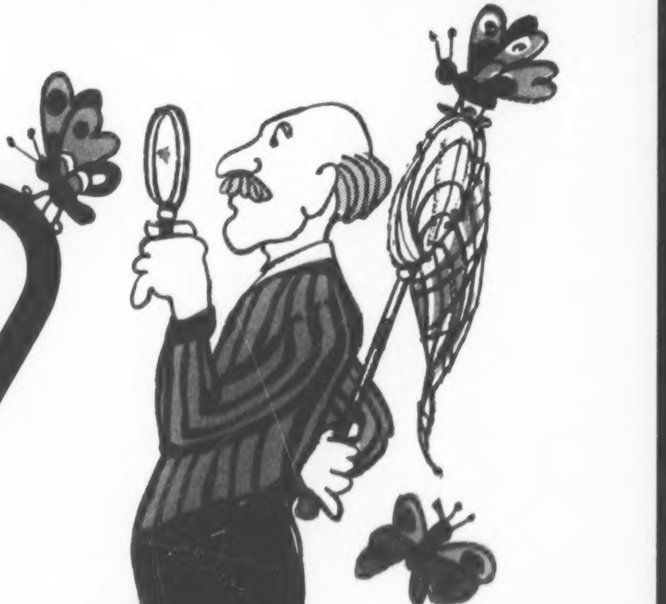
DENTISTS work to keep people's teeth and gums healthy and strong. They use x-rays, mouth mirrors, and other tools to check teeth. If teeth are decayed, dentists take steps to fix them. They clean out the decayed area and put fillings in. Dentists also remove and replace teeth. Dental hygienists help dentists by cleaning people's teeth. Dental assistants get the tools and materials ready for each patient.

DIVERS work under water, using scuba gear or diving suits. People generally think that divers search for sunken treasures. They do, but there are many other jobs that need the services of divers. Divers inspect bottoms and propellers of ships. They make repairs under water. Divers show where pilings for docks and bridges should go. Some divers lay, inspect, and repair underwater cables and sewers. Divers use a signal line or telephone to talk with workers above the surface.

E







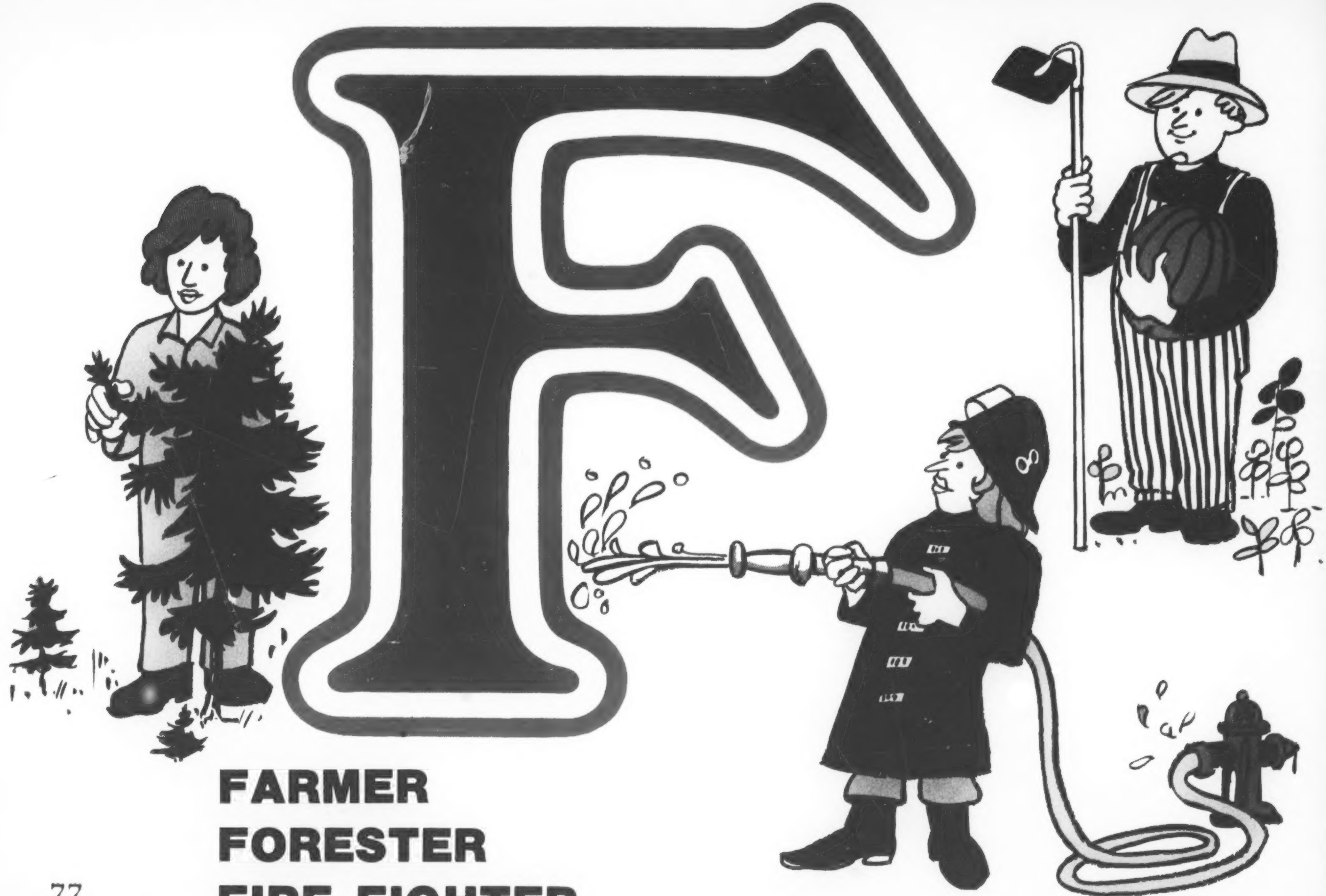
EARMUFF MAKER
EDITOR
ENTOMOLOGIST

E

EARMUFF MAKERS started in the State of Maine. Earmuffs were invented by Chester Greenwood in Farmington, Maine. He was 15 years old when he thought up this ear covering hooked to a metal headband. Chester Greenwood used only a pair of pliers to make his first pair. His grandmother sewed on the coverings and linings of fur and cloth. Chester Greenwood got a U.S. patent for his invention in 1877. Six years later, he had a factory. Earmuff makers turned out 30,000 pairs of earmuffs a year. In 1936, 400,000 pairs of earmuffs were shipped from two factories in Farmington.

EDITORS read written materials to make sure the facts are correct. Editors also check to see that proper language and grammar are used. On newspapers, editors work with reporters and photographers. They assign them to stories and news beats. Editors decide on which pages stories will appear. They also decide how much of the newspaper's space should be used for each story. Editors work with writers, designers, production workers, and printers. They help them work together. Editors make sure everybody has done their job properly.

ENTOMOLOGISTS study insects and the way they grow and live. They work to control the numbers of insects. Entomologists try to protect those that are helpful. Silkworms make a valuable fiber. Honey bees provide honey and pollinate plants. Entomologists try to protect those kinds of insects. They also work to get rid of insects that cause harm. Some insects damage crops and spread diseases. Entomologists try to reduce the number of harmful insects.



FARMER
FORESTER
FIRE FIGHTER

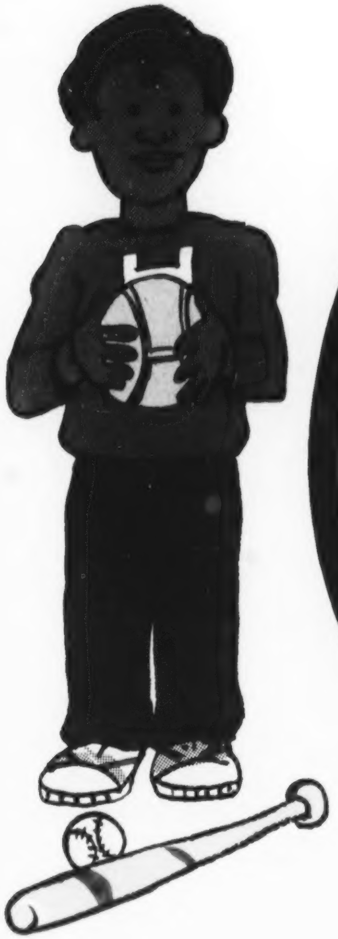
F

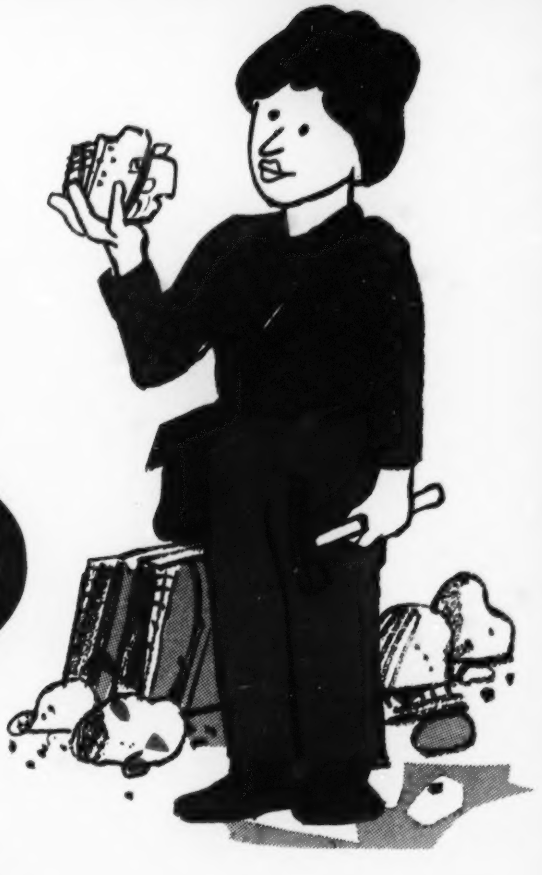
FARMERS have one of the most important jobs in the world. People cannot live without food. Nearly all the food we eat comes from plants and animals raised by farmers. There are specialized farms and mixed farms. On a specialized farm, farmers raise crops that grow best in that soil. The Maine potato, raised largely in Aroostook County, is a good example. On a mixed farm, the farmer raises several kinds of crops and livestock. Most farms in Maine today are large. But more and more small farms are coming back. Farming is hard work. Most members of the family help out. Many farmers hire helpers as well.

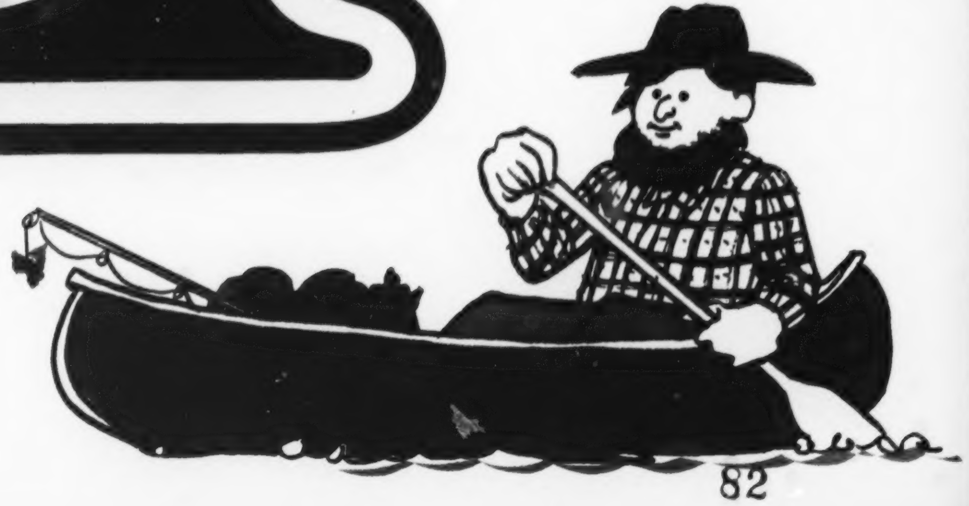
FIRE FIGHTERS provide a valuable service to every member of the community. They control and put out fires and protect lives and property. Fire fighters are taught safety. They learn how to enter a burning building. They also help people from upper levels of buildings. Fire fighters give first aid and artificial respiration to injured persons. They take part in drills and courses in fire fighting techniques. Many small communities in Maine have volunteer fire departments. People of these towns donate their services as fire fighters.

FORESTERS manage and develop forest lands and resources. Forests are important for business and for recreation. Maine's forest lands cover more than 87 percent of the state. Seventy-six different kinds of trees grow in Maine. Foresters are important to Maine's future. They plan cutting programs to make sure trees will keep growing. They study ways to cut and remove timber with little waste and damage. Foresters work so that Maine's forests are not destroyed. They make sure they are used properly to help provide jobs and recreation.

G



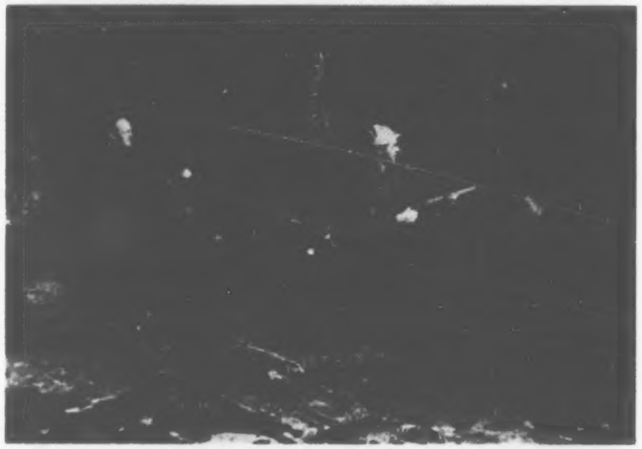




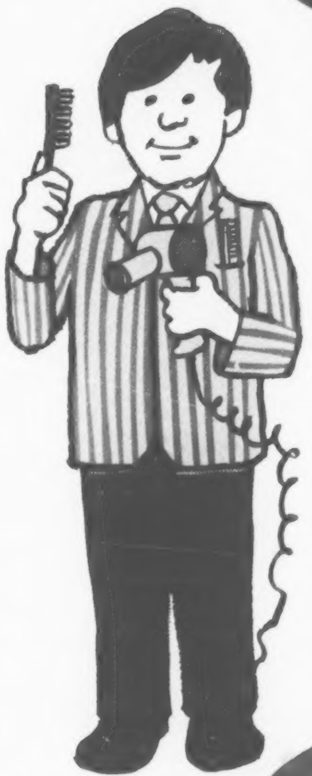
GEOLOGIST
GUIDE
GYM TEACHER

GEOLOGISTS work in many different jobs. Geologists are needed in industry, education, and government. Geologists explore the earth for coal, oil, gas, and other materials that supply energy. They look for copper, gold, lead, and silver as well as diamonds and other gems. Geologists help in space exploration by locating good moon landing sites. They explore the ocean floor and mountain peaks. Geologists travel a lot.

GUIDES take people on hunting and fishing trips. People hire guides because guides know the best places to go. They know the wilderness areas well. In Maine, licensed guides are called Maine Guides. They may take people on hunting and fishing trips to places that can be reached only by airplane. Guides make all the plans for the trips. They cook meals outdoors for their group. Guides also teach members of their group the proper use of hunting and fishing gear. Guides know the hunting and fishing laws of the state. They make sure those laws are obeyed. Guides know a lot about nature and outdoor survival. Guides help people to enjoy the outdoors more fully.



GYM TEACHERS work in physical education. They plan and supervise group sports and other activities in the schools. Gym teachers stress activities that will improve posture and physical growth. They help students develop coordination. They show them how to keep their bodies healthy and strong. Gym teachers also teach others to practice good sportsmanship. Gym teachers, or physical education teachers, have many job choices. Some are athletic directors, coaches, and playground directors.



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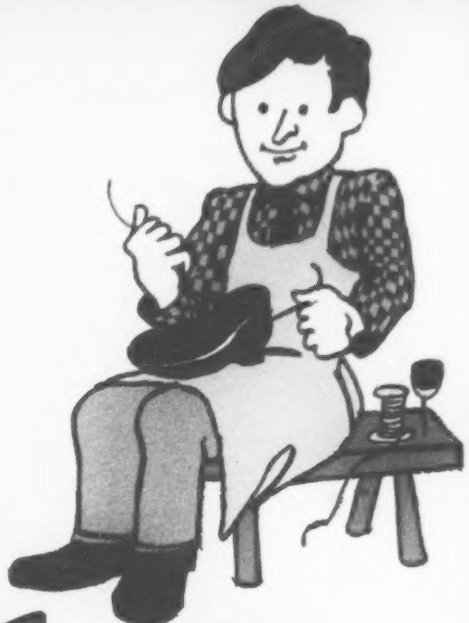

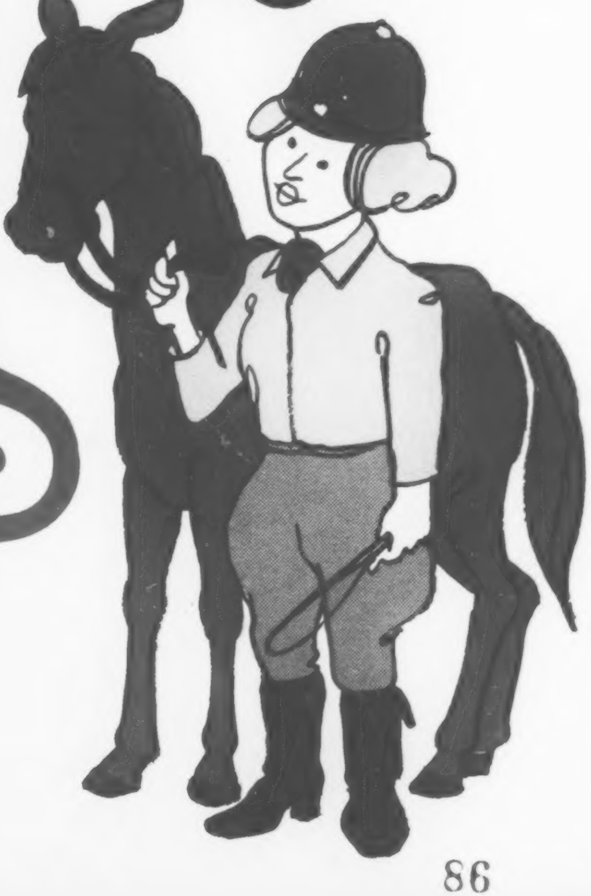

HAIR STYLIST
HORSE TRAINER
HAND SEWER

HAIR STYLISTS cut, set, arrange, and care for people's hair. Hair stylists study a person's face. Then they arrange the hair to show the best features. Hair stylists use their fingers as well as combs, scissors, and special solutions. People have cut, braided, and dyed their hair since prehistoric times. Professional hairdressers date back to the 1700's. Hair stylists help men and women to look better.

HAND SEWERS work in shoe factories. They sew parts of shoes together. Hand sewers punch stitch openings. Then they insert waxed thread through the openings to sew the parts together. Thousands of Maine people work in shoe factories. They make sporting shoes and dress shoes for people all over the country. Hand sewing is a craft. Hand sewn shoes are considered special.

HORSE TRAINERS work with horses in a slow and gentle, but firm manner. Trainers help horses learn to be harnessed, saddled, and ridden. They work with horses to break bad habits, such as kicking. Horse trainers first teach the horse to follow the signals of a rider or driver. Then, he or she trains the horse for a certain sport or activity. For example, thoroughbred horses are taught to run when a starting gate swings open. Horse trainers usually specialize. Some work with one particular breed of horse. Others train horses for a special kind of riding, racing, or show activity.

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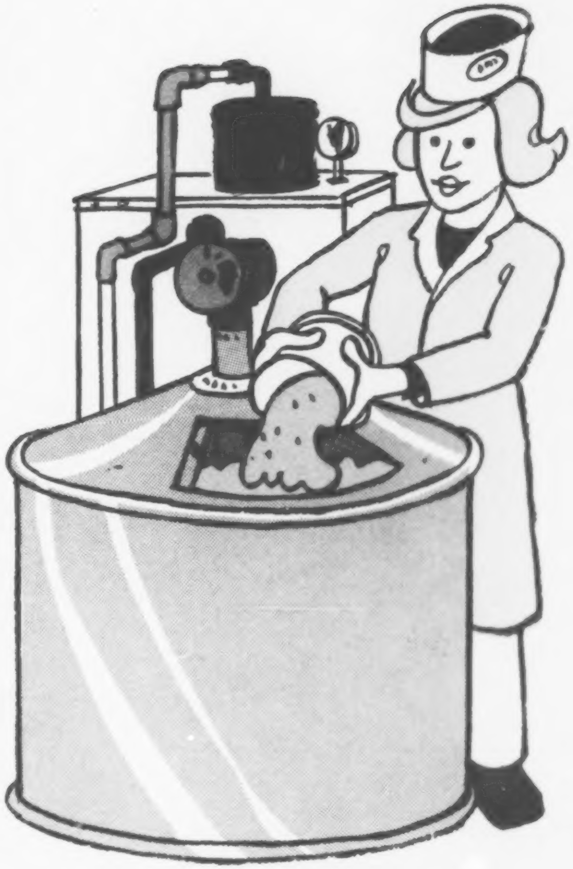
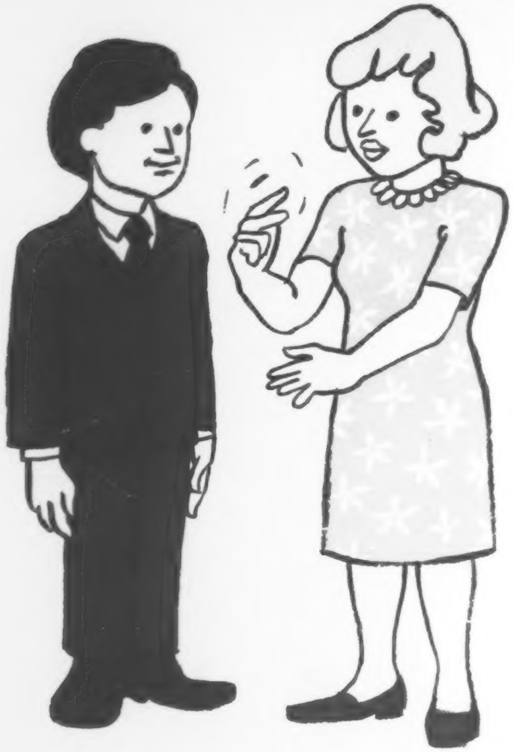
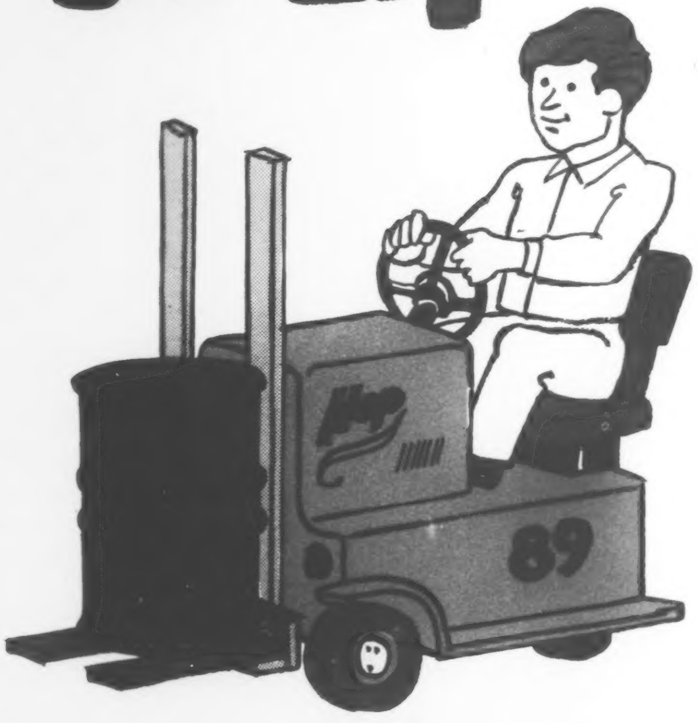


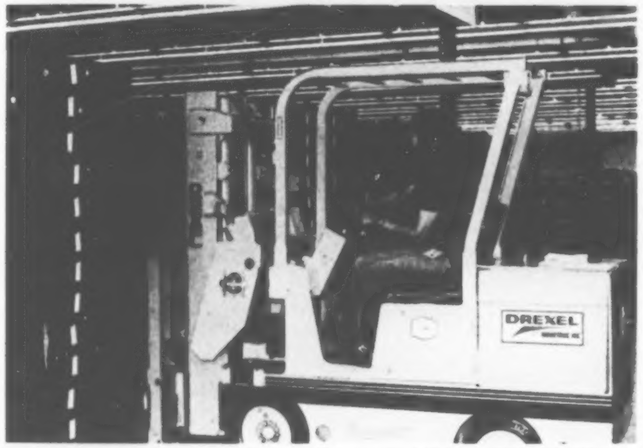




INTERPRETER
ICE CREAM MAKER
INDUSTRIAL TRUCK DRIVER

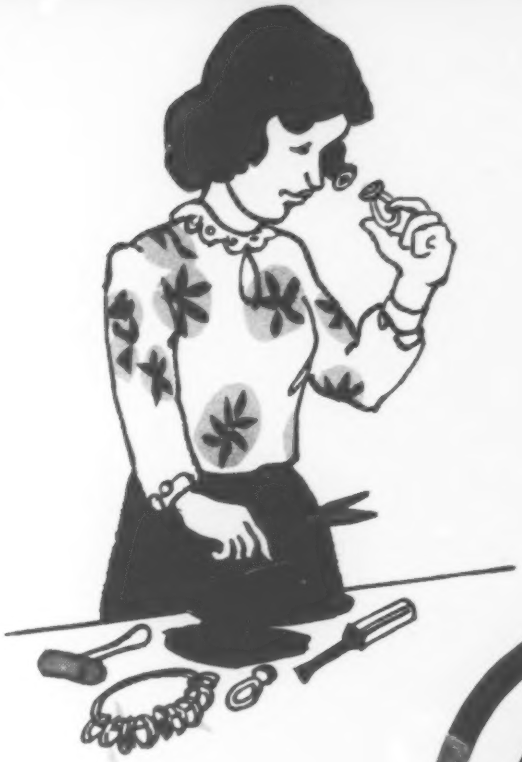
ICE CREAM MAKERS operate freezers which make ice cream semi-solid. They measure coloring, flavoring, and fruit. Ice cream makers pump ice cream into cartons, cones, or molds for desserts. Some hotels and restaurants hire ice cream chefs. They make frozen desserts such as sherberts, ice cream, and custards. Ice cream chefs also mold ice cream into fancy shapes, such as flowers, and decorate them.

INDUSTRIAL TRUCK DRIVERS operate a truck which has a lifting device. Some have forks, booms, scoops, hooks, or clamps. The industrial truck driver drives the truck and raises and lowers the lift. These truck drivers move, lift, and stack materials in a warehouse, storage yard, or factory. Industrial truck drivers may also weigh materials and products. They write that information down. Many industrial truck drivers must also take care of their trucks. Industrial truck drivers work in any industry that needs heavy materials moved and stacked regularly.

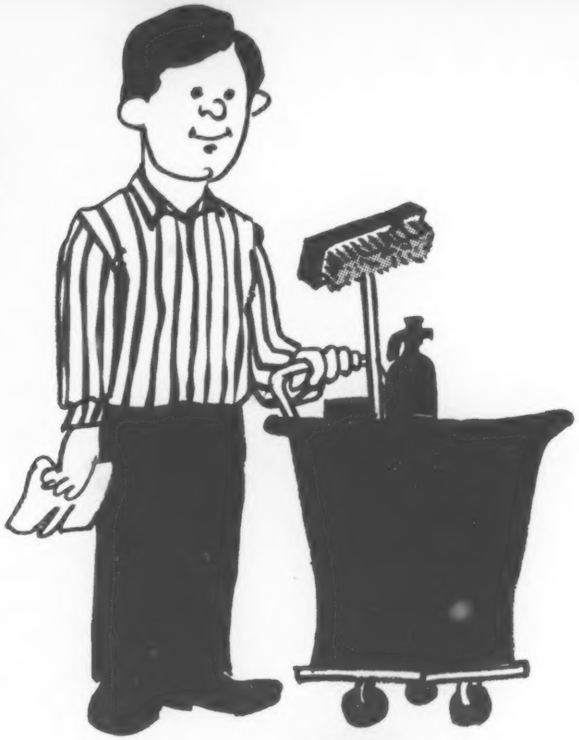


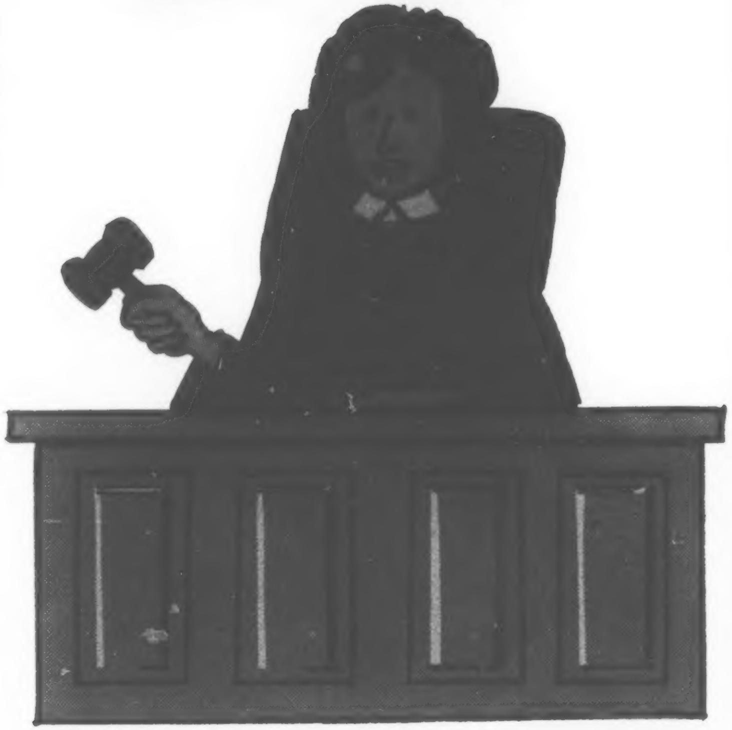
INTERPRETERS help people understand each other. One important job is that of interpreting for the deaf. Interpreters for the deaf use rapid hand and finger signals. This is called sign language. With these signals, they tell people who cannot hear what is being said aloud. Interpreters for the deaf often translate TV news broadcasts and other special programs. They are seen at the corner of the screen giving sign language. Interpreters for the deaf also help people who *can* hear. They translate sign language for persons who do not understand it. Interpreters for the deaf make it possible for the hearing impaired to talk with others.

J



JANITOR
JEWELER
JUDGE

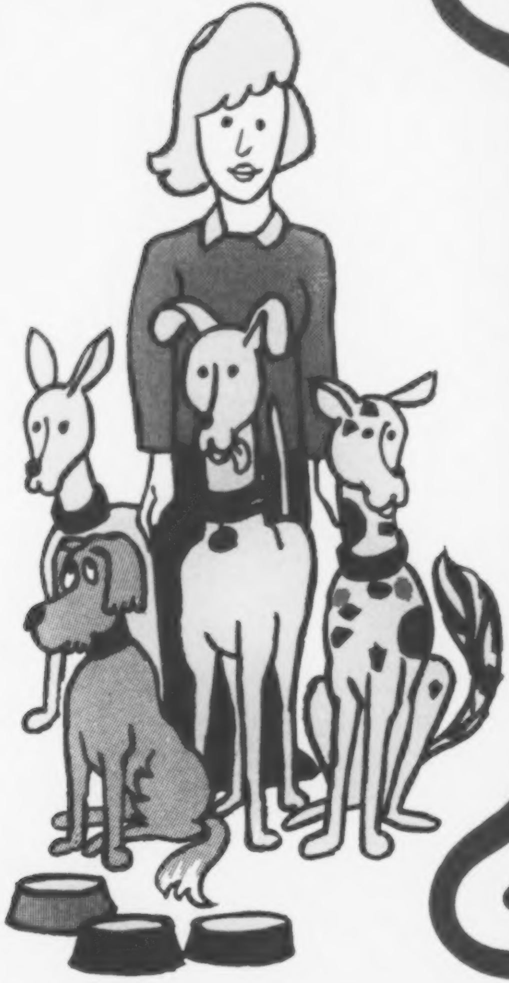




JANITORS work to keep schools, office buildings, hotels, and other places clean. Janitors tend the furnace, air conditioner, and boiler. They are responsible for the general appearance of a building. They do many routine chores, such as painting, or repairing plumbing. Janitors sweep and mop hallways and stairs. They clean public rooms and clear snow from sidewalks. If we keep our work and play areas neat, we will be helping janitors in their jobs.

JEWELERS make and repair rings, necklaces, bracelets, and other jewelry. In making jewelry, they use carving tools to form a wax model. They then pour in plaster to form a mold from which jewelry is made. Jewelers use hand tools and a polishing wheel. They cut, file, saw, and polish until the pieces are shaped and styled as they want them. In ancient times, jewelry makers used simple tools. They counted on the skill of their hands. Today, most jewelry is made by machine. But certain, very expensive pieces still require the detailed handwork of a jeweler.

JUDGES are officers of the government. They preside over courts of law. Judges listen carefully to the testimony in a court trial. They must remain fair and open-minded. Judges assist the jury after lawyers for both sides have presented their cases. The judge tells the jury which laws apply to that case. The jury must then decide if a person is guilty or innocent. If a person is found guilty, the judge must hand down the sentence or punishment. Sometimes a person chooses not to have a jury trial. In those cases, the judge must decide innocence or guilt based on the evidence presented.



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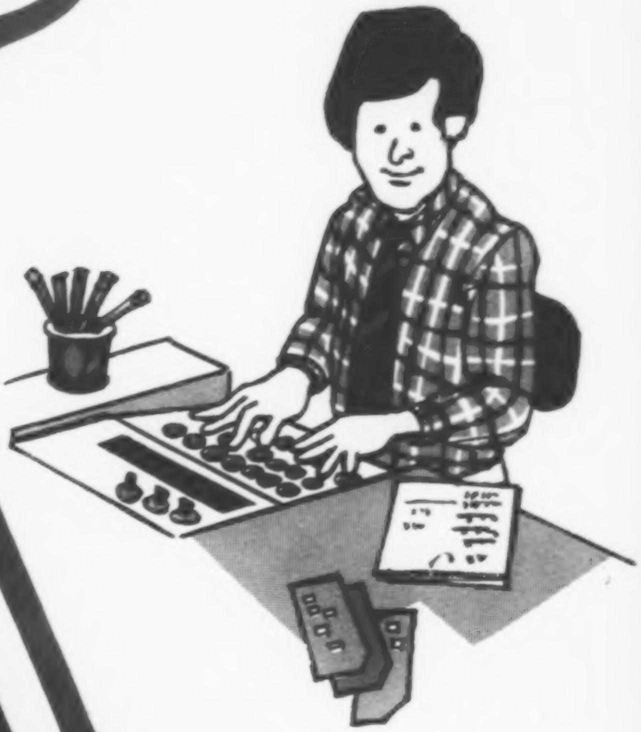
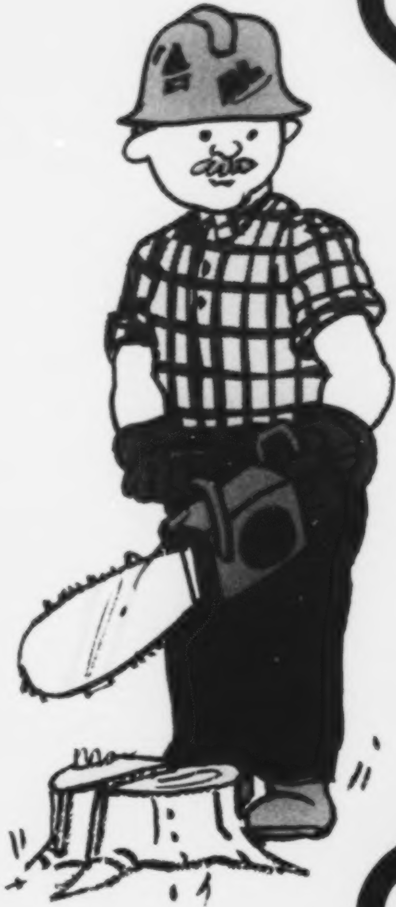


KENNEL KEEPER

97 **KEYPUNCH OPERATOR** 98

KENNEL KEEPERS take care of animals kept in kennels. They feed and water them on schedule. They clean and disinfect their cages and exercise yards. Kennel keepers also examine animals for signs of illness. They treat them according to instructions. Kennel keepers make sure the animals' quarters aren't too hot or too cold. They also give shots against infection, as well as bathe and groom the animals. Kennel keepers are usually very fond of animals.

KEYPUNCH OPERATORS work with a keypunch machine that is like an electric typewriter. Typing on the keyboard of letters and numbers, they place information onto punchcards, paper, or magnetic tape. The punchcards will be fed into automatic or electronic data processing equipment. The keypunch operator loads the machine with cards, tape, or paper. He or she watches to make sure it is working properly. Keypunch operators work in many different businesses.



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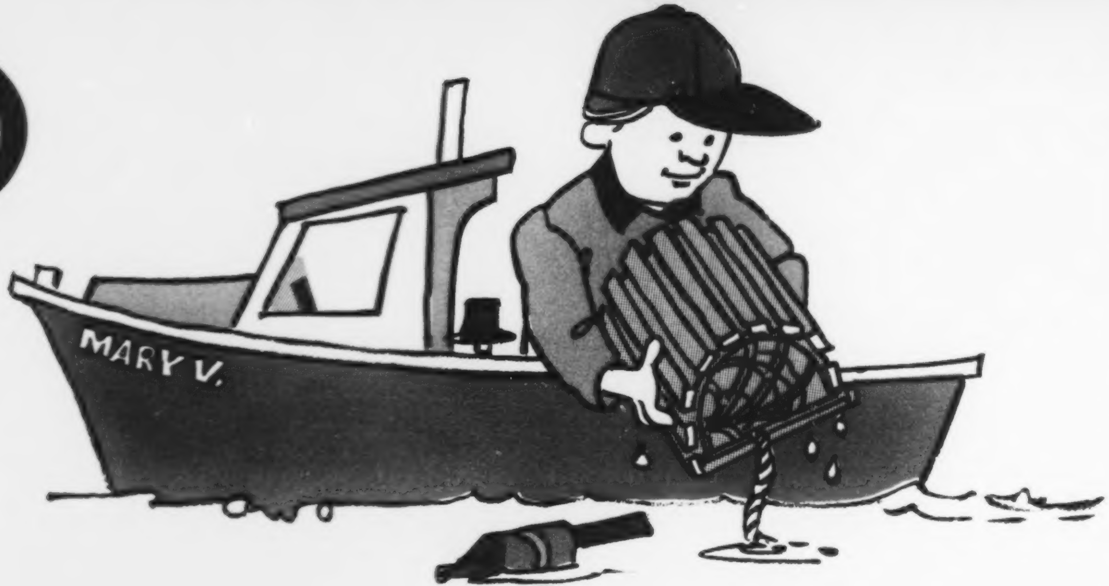
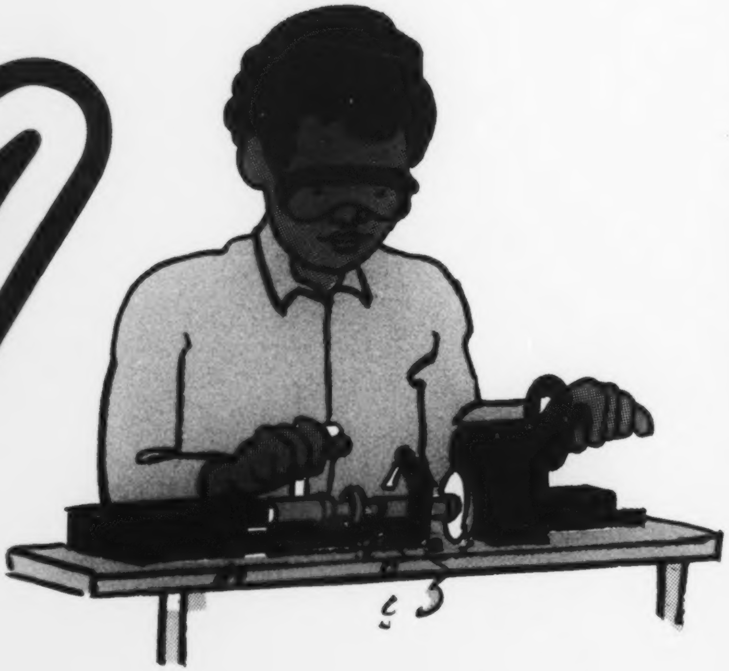




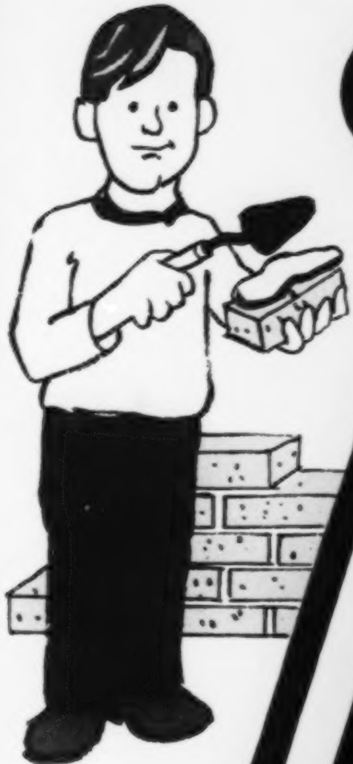
LOBSTER FISHER
LOGGER
LATHE OPERATOR

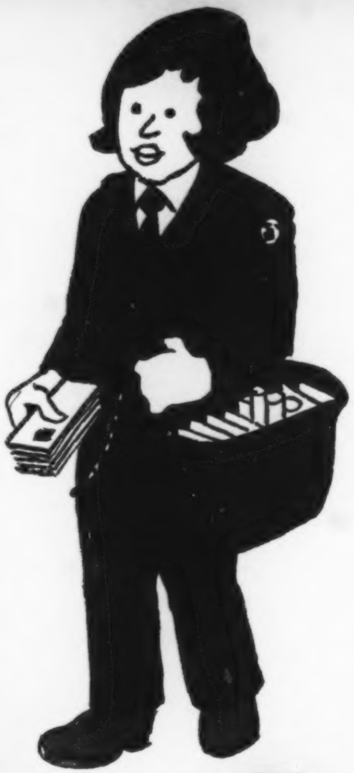
LATHE OPERATORS set up and run a cutting instrument called a lathe. Lathes are used to cut round and multi-shaped wooden parts in making furniture. Lathe operators also work in rubber, metal, and stone. A stone lathe operator shapes a block of stone as it turns on the lathe. Stones such as marble and granite are shaped to form pillars and other monumental work. A stone lathe operator may use special tools to cut intricate designs in stone.

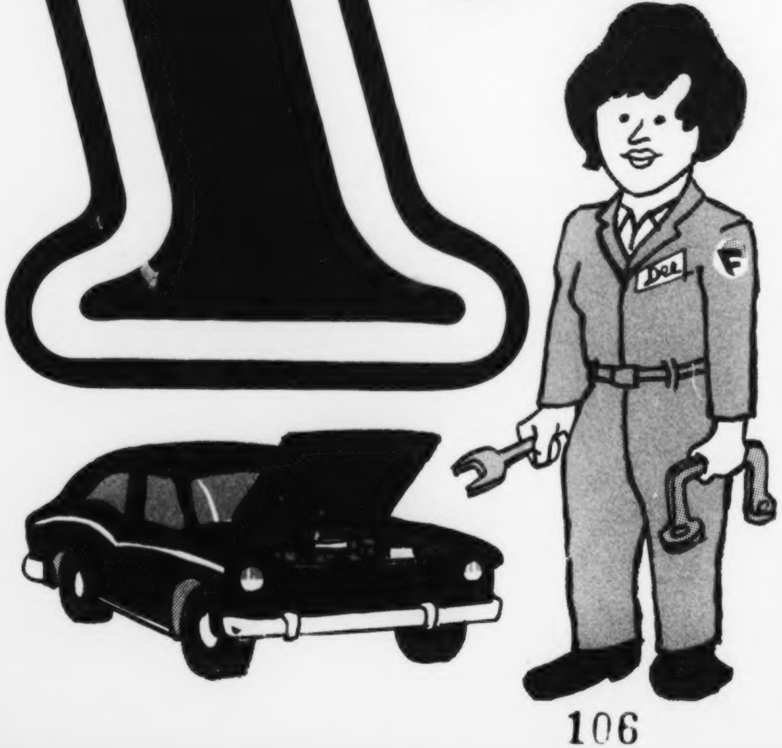
LOBSTER FISHERS earn their living from the ocean. They catch lobsters in wooden traps under water. The lobsters are attracted to the net opening of these cages by bait. When lobster fishers pull their traps (or cages) they dump the lobsters on the deck of the boat. They measure the smaller ones to make sure they are of legal size. Then they put pegs in the claws so the lobsters won't harm each other. Many people who live on the Maine coast are lobster fishers. They check their traps and pull their catch in lobster boats. Their boats are designed for lobster fishing. Lobster boats are distinctly different from other boats on the ocean.

LOGGERS work in the woods. They cut trees, removing the limbs and tops. They measure and cut the tree into log lengths. Loggers use chainsaws, wedges, and axes to do the job. They use tractors and horses to drag the logs to the loading place. Loggers may also drive the truck load to the lumber or paper mills. Millions of cords of wood and lumber are produced in the Maine woods each year.

M

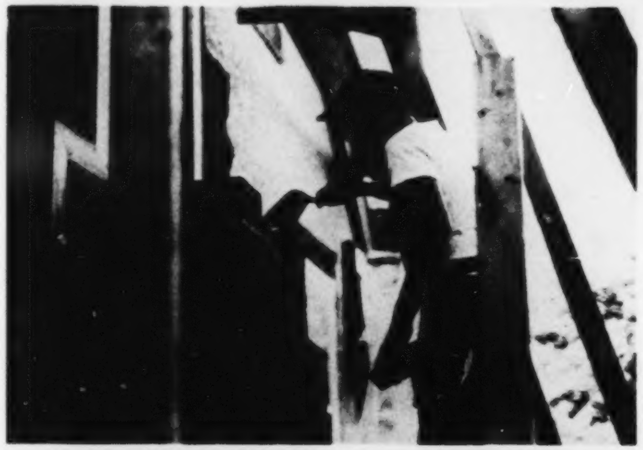






MAIL CARRIER
MASON
MECHANIC

MAIL CARRIERS sort and deliver mail to homes and businesses. Rural mail carriers deliver mail by motor vehicle outside of town. City carriers deliver mail on foot. Both rural and city carriers pick up mail that is being sent. Mail carriers also readdress mail when someone has moved.



MASONS build with bricks, stone, and mortar. Mortar is the soft material in which bricks and stones are set. The mortar hardens and holds them in place. Masons set or lay bricks to build a chimney or fireplace. They set stones to build piers, walls, or walkways. Masons spread a layer of soft mortar. Then they place the bricks or stones evenly as they go along. They must measure constantly and carefully. A trowel is the mason's most important tool. Masons use the trowel to apply mortar. They also use it to level the bricks and stones and to remove excess mortar from edges.

MECHANICS repair vehicles, such as cars, buses, and trucks. They put your car on a lift to check the underside. Mechanics discuss with the customer the work that needs to be done. Using special hand tools, he or she then replaces or repairs the broken parts. Some mechanics also fix the body and fenders of cars, trucks, and buses. They install radios, heaters, and windshield wipers. Mechanics make sure your vehicle is in good running order. A car, truck, or bus that isn't operating properly may be unsafe to drive.

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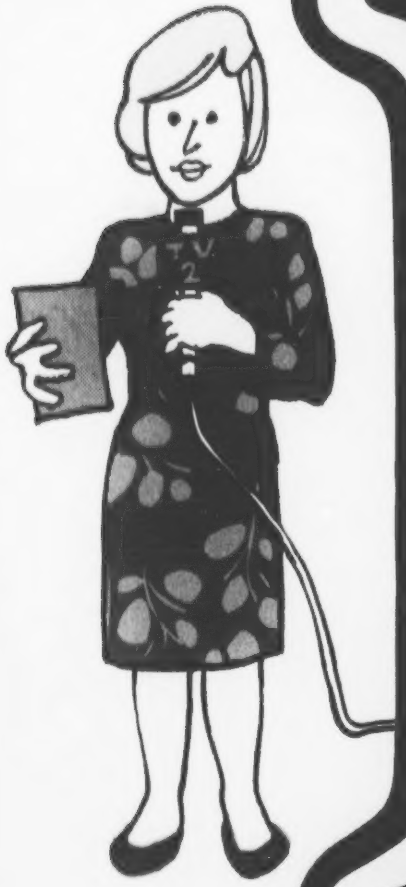

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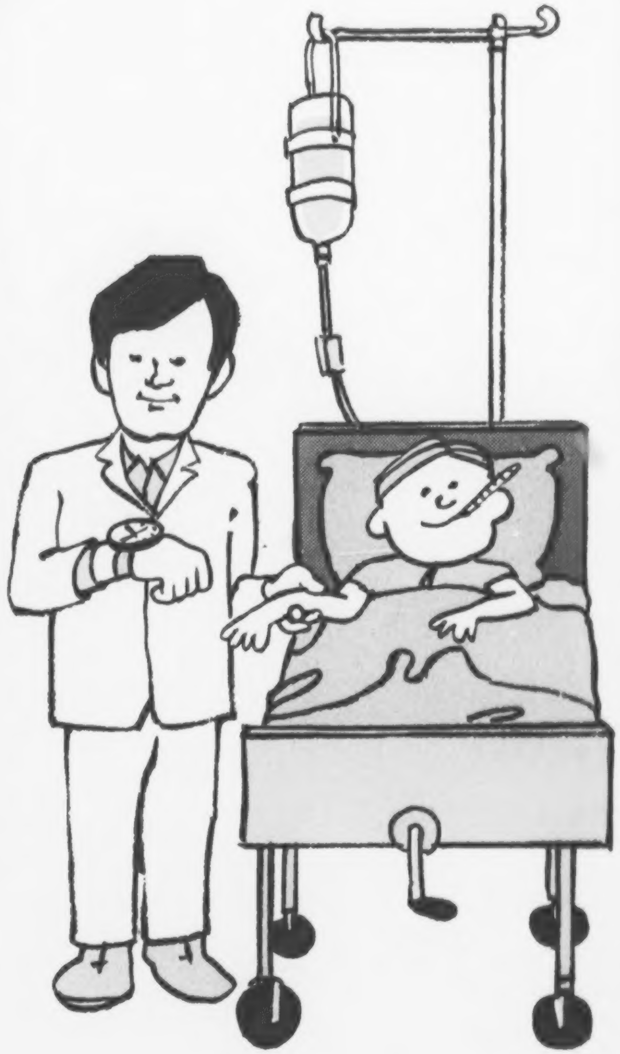

110

NURSE

NEWS REPORTER

NEWS REPORTERS write and report news stories for newspapers, radio, and television. News reporters gather facts by interviewing people. They observe events carefully and do additional research. News reporters work on assignment from editors. They also develop their own stories. They follow up on leads from other people. Television news reporters must make their stories much shorter than newspaper reporters. Television news reporters have only a few seconds to report an entire event on camera. News reporters must be very accurate with their information.

NURSES work in hospitals and similar places. Their work helps sick people to get better. Nurses try to make sure that patients are as comfortable as possible. They give medicine, as prescribed by a doctor. They help doctors examine and treat patients. Nurses watch patients to see how they are responding to treatment. They report to the doctor any bad reaction a person has to drugs or treatment. Some nurses work in the operating room. They are part of the surgical team. Some care for newborn babies in the hospital nursery. Nurses must like people and want to help them.

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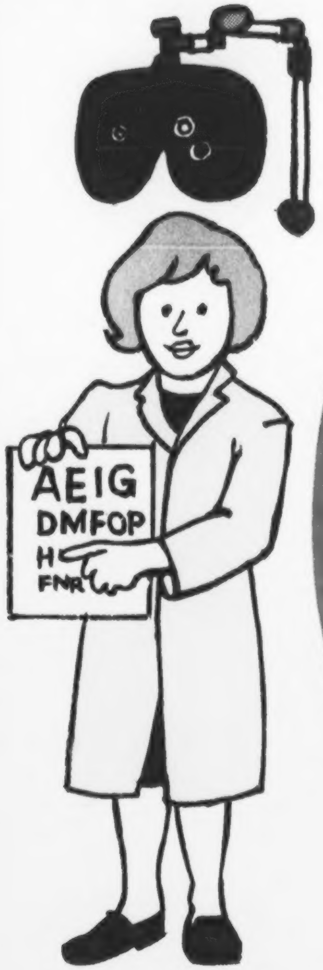
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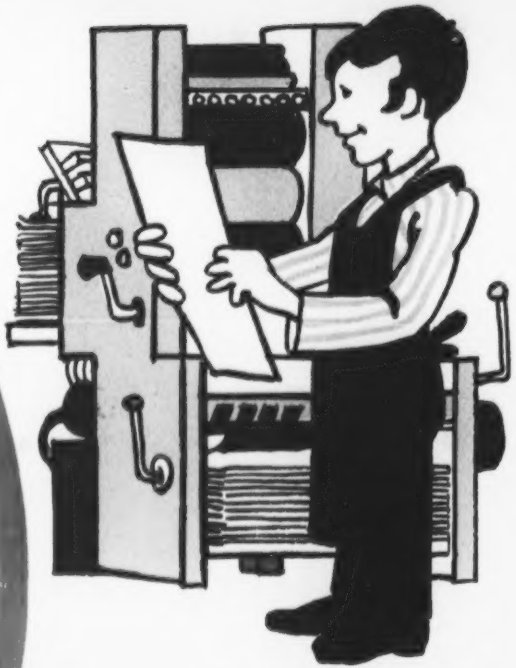
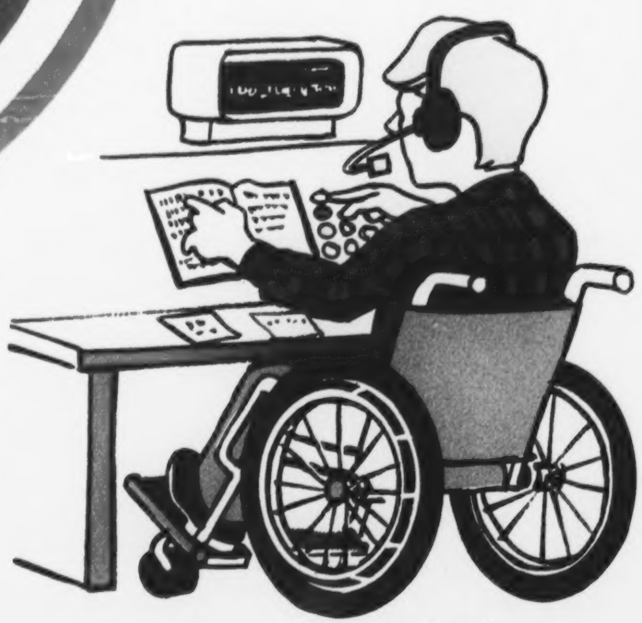


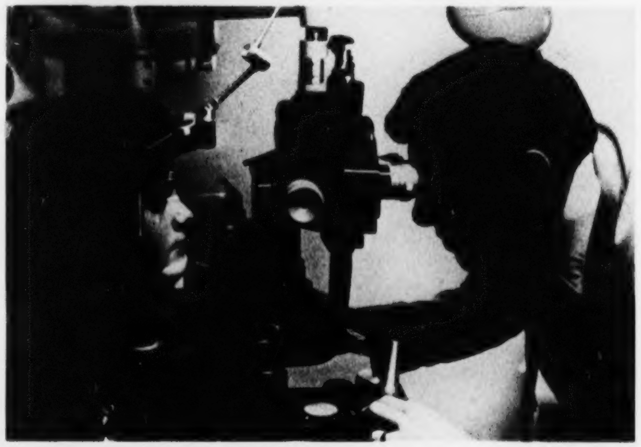


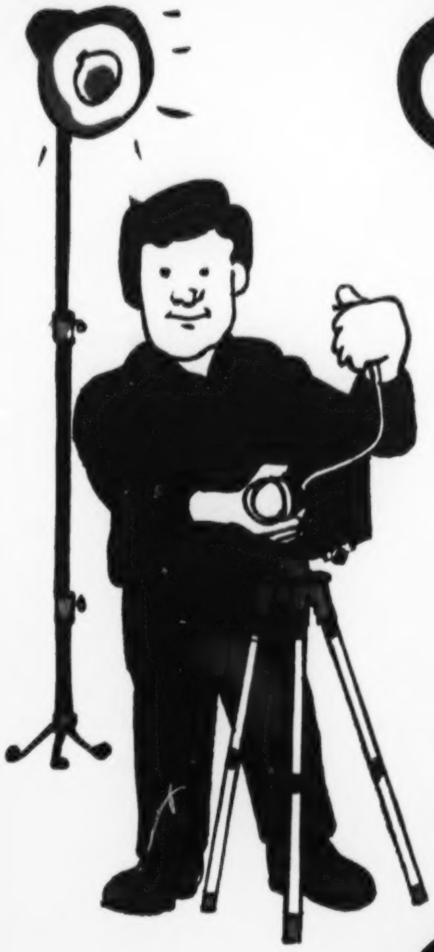
OPERATOR
OPTOMETRIST
OFFSET PRESS OPERATOR

OFFSET PRESS OPERATORS run printing presses. They get the press set up to print from special plates and in many colors. Offset press operators check the job order to make sure they print the correct number of pieces. They make sure that everything is lined up in place on the press. They also tend the press while it is running. They check the printed pieces as they come off to make sure the quality is good. Some offset press operators work in small print shops. They run small and simple presses. Others run giant presses, such as those used to print newspapers and magazines.

OPERATORS work at a telephone switchboard to help people while they make phone calls. They tell people using pay phones how much a call will cost. They help place long distance calls when the charges are reversed. Information operators will give you the numbers for people in other cities. Operators also help contact the police or fire departments in emergencies. The telephone company isn't the only one to hire operators. Many businesses get so many calls that they also hire telephone operators. These operators run the company switchboard. They place calls to various departments. Operators help others conduct their business.

OPTOMETRISTS examine eyes to find out how well people can see, both close up and far away. They use special lights and equipment. When necessary, they prescribe eyeglasses or contact lenses and treatment. Most optometrists sell eyeglasses. They also fit and adjust contact lenses. About one out of two people in this country wear glasses or contacts. Optometrists provide most of this care.





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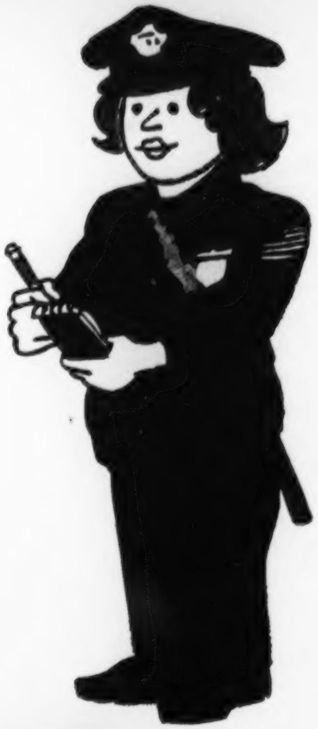
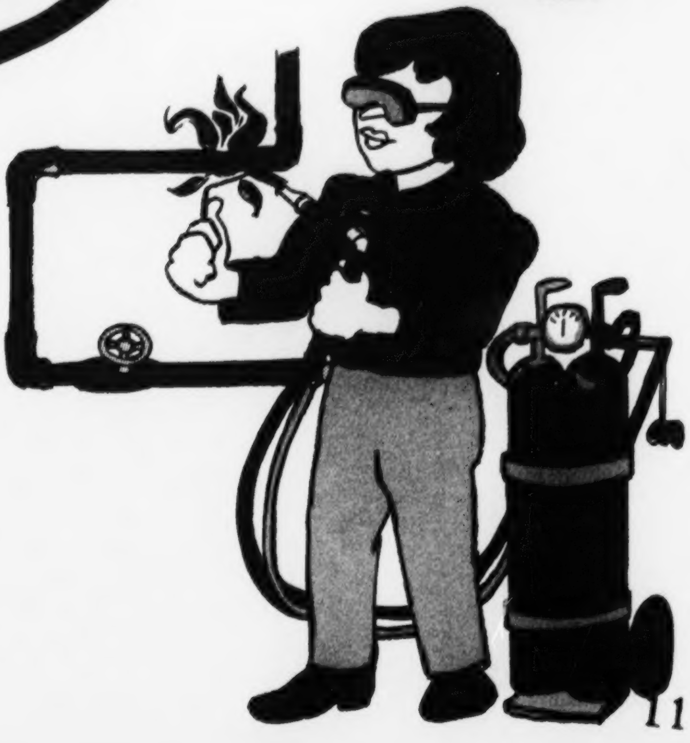




PLUMBER

POLICE OFFICER

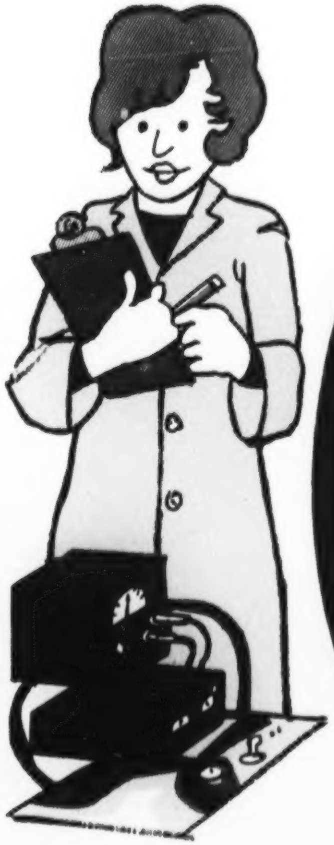
PHOTOGRAPHER

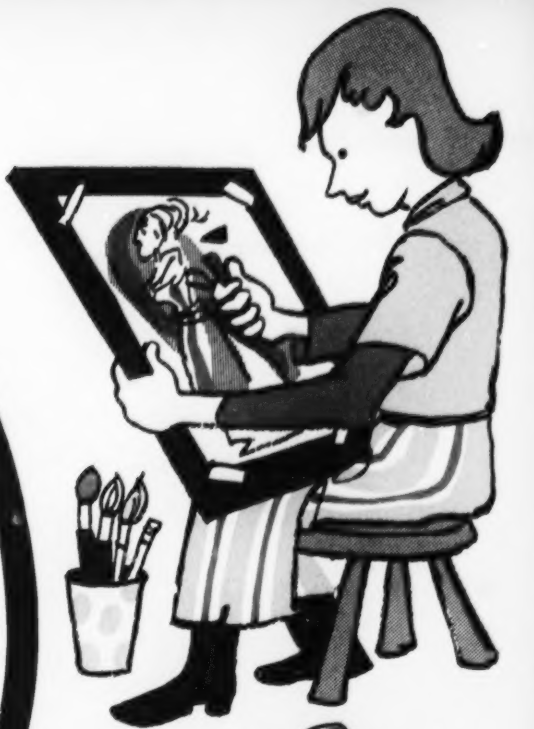
PHOTOGRAPHERS use cameras and film to record people, places, and events. Good photographers can capture a person's personality in a picture. The mood of peaceful lakes and other scenes can be captured in photographs. Photographers use light meters and special lenses to get the best effect. They must know their equipment to make good pictures. Photographers also print pictures from the film they develop. This work is done in a dark room. Many businesses need the skills of photographers. They work in science, medicine, industries, and many other fields. Photographers use cameras and film as a writer uses words.

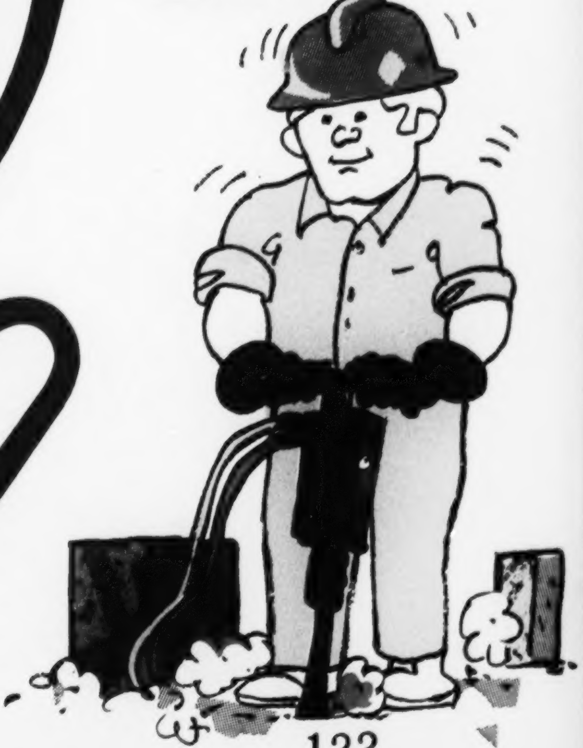
PLUMBERS work in homes, schools, factories, and other buildings. They install and repair water, heating, and drainage pipes and fixtures. Plumbers must follow certain rules and regulations of doing such work. They use hydraulic pipe benders to cut, bend, and thread pipes. They also use wrenches, drills, hammers, and many other tools. Plumbers install the pipes and fittings in new buildings. They make repairs in existing buildings. Some plumbers work for themselves. Others work for plumbing companies.

POLICE OFFICERS serve their communities in many ways. They patrol streets and neighborhoods to guard against crime. They help accident victims, direct traffic, and search for lost persons. They investigate burglaries and other crimes. Police officers patrol on foot and by car. They arrest suspected lawbreakers. They testify in court trials. Police officers are friends of the community. They work hard to keep our towns and cities safe.

Q







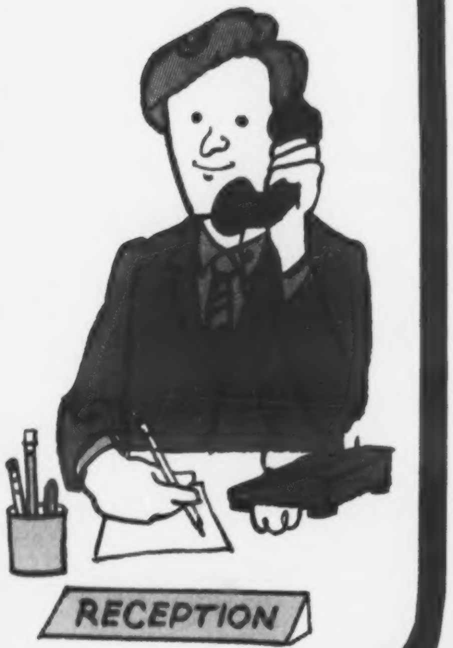
QUARRY WORKER
QUICK SKETCH ARTIST
QUALITY CONTROL TECHNICIAN

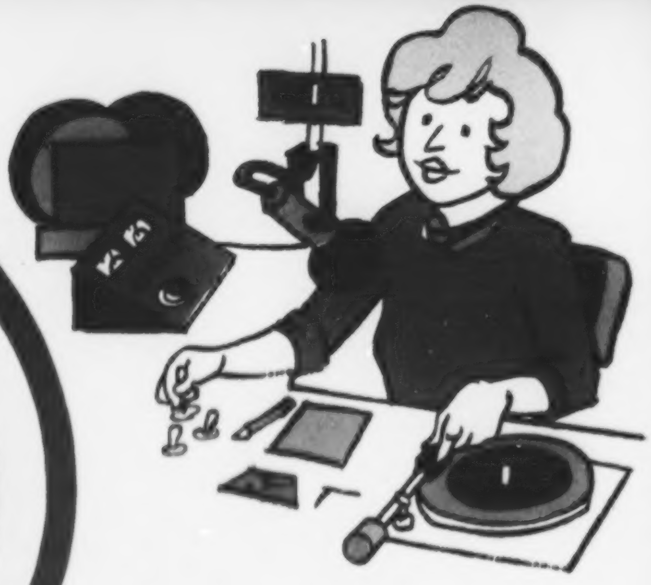
QUALITY CONTROL TECHNICIANS inspect and test many different products. They work to make sure that those products are reliable and good. Quality control technicians may inspect liquor, food, glass manufacturing, and electronics equipment. For example, food inspectors would test the materials put into the making of corn chips. Then they would test the completed product. In electronics, quality control technicians use special test equipment. They check to see if electronic parts are working properly. A dial on the test instrument indicates if a unit has a defect. Quality control technicians suggest ways to improve the quality of products.

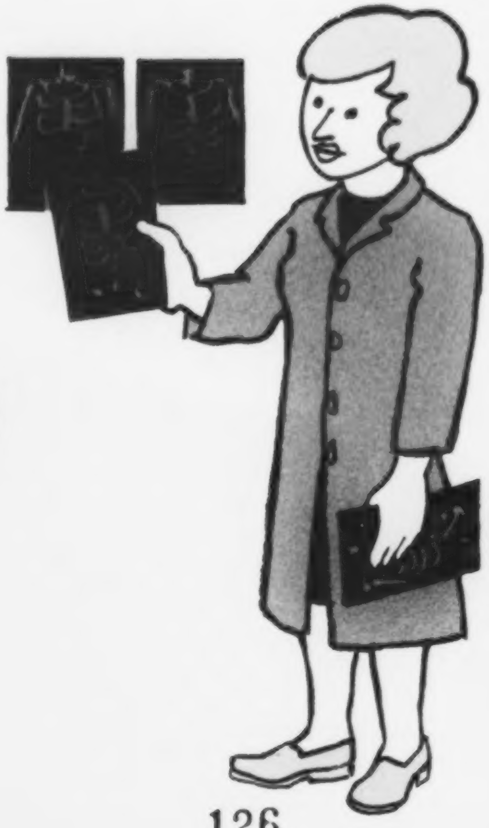
QUARRY WORKERS perform many different tasks to extract stone from the earth. They run jackhammers, drive big trucks and other heavy equipment to remove and crush the stone. Some quarry workers dig deep holes and set off dynamite charges to separate the stone. Others monitor remote control panels that have viewing screens. In this way, they can see if everything is working properly. In earlier days, granite was the principal stone quarried in Maine. The State House in Augusta was built from granite from a Hallowell quarry. Many famous buildings and monuments throughout the country are made of Maine granite. Today, mostly limestone, asphalt, and crushed rock are taken from Maine quarries. They are used for farming and construction projects.

QUICK SKETCH ARTISTS draw pictures of people, places, and things. When sketching the likeness of a person, the quick sketch artist may use a photograph or have that person pose. Quick sketch artists may also do cartoons of people. They work in pencil, charcoal, pastels and other medium. Many types of art are used for business. Commercial artists, such as the one who drew the cartoons on the ABC cards, work in many kinds of businesses. They create art for books, magazines, advertisements, television, and many other things. Commercial artists perform a wide variety of art services.

R





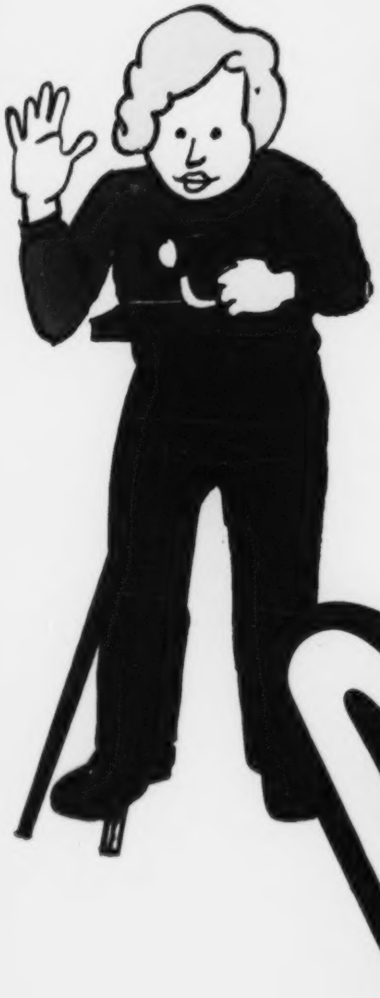


RADIOLOGIST
RECEPTIONIST
RADIO ANNOUNCER

RADIO ANNOUNCERS perform many duties at a radio station. They start and end shows. They announce station breaks and read commercials. Many radio announcers are disc jockeys. They talk about the records they will play. Announcers on large radio stations specialize. They may read just sports stories on the air, or news, or weather information. Radio announcers must have a pleasant voice and good pronunciation. It is important that they know correct English usage.

RADIOLOGISTS diagnose and treat diseases. They are medical doctors who use x-rays, fluoroscopes, and radioactive isotopes to locate problems in patients. Once radiologists have found the diseased area they recommend a program of treatment. Radiologists use therapeutic x-rays to treat internal cancer and other diseases. They are assisted by x-ray technologists. X-ray technologists carry out the orders of the radiologists. They work with patients just as nurses do for doctors.

RECEPTIONISTS may perform many different duties. They greet visitors at a place of business and try to assist them. If a person wants to meet with someone in the company, the receptionist helps make the arrangements. They answer questions and provide information about the particular business they work for. Receptionists may also distribute mail and messages. Many must also be able to type. Some receptionists work in doctors' and dentists' offices. They make appointments for patients. The receptionist is usually the first person a visitor sees in an office or place of business. Therefore, he or she must be very pleasant and polite.



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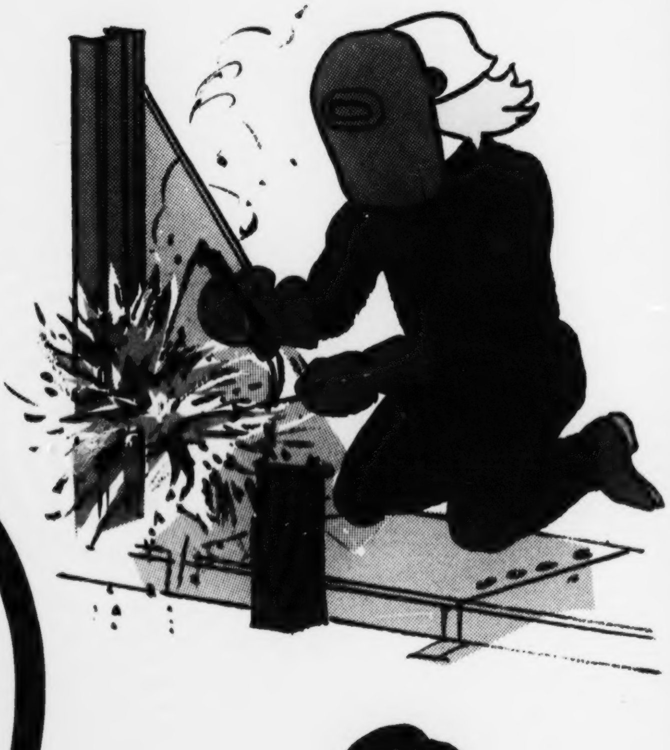
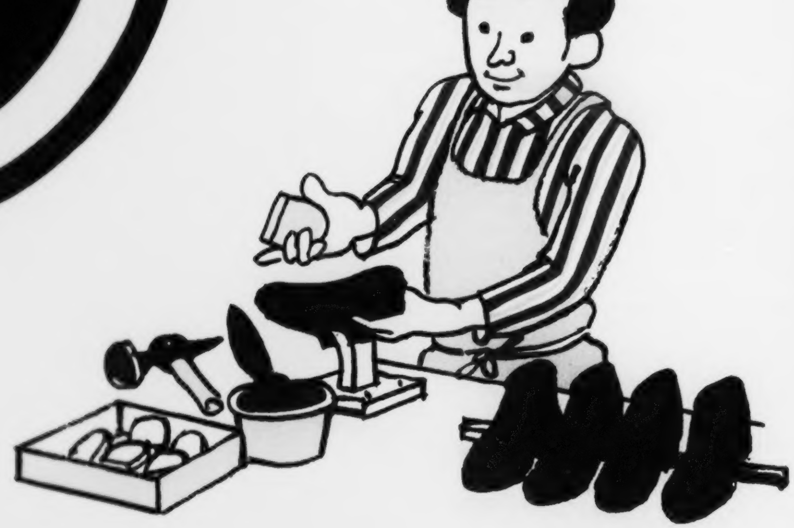
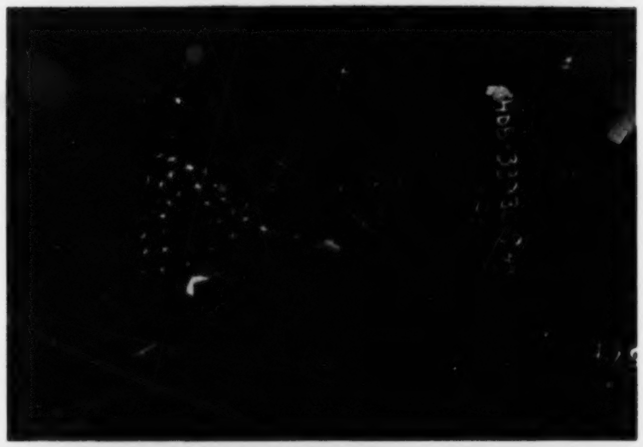




SHIPFITTER
SHOE WORKER
SURVEYOR

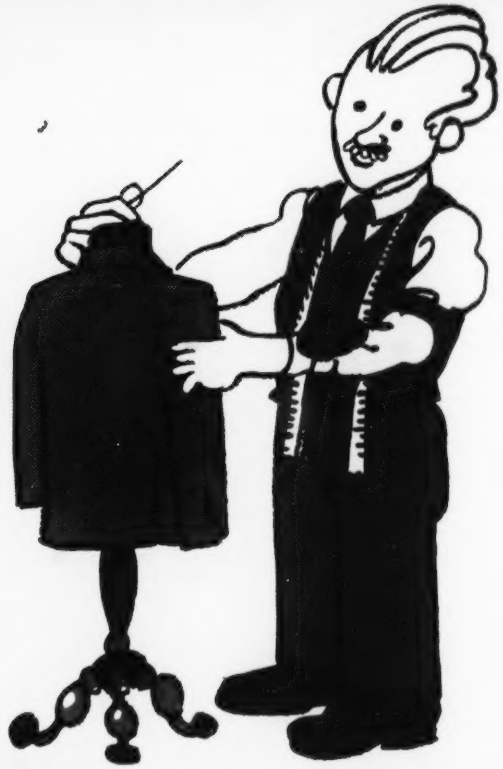
SHIPFITTERS form the shape of the ship's hull by putting together steel plates. They install temporary fasteners to hold the plates until they are welded or riveted. Shipfitters are concerned with building the foundation of the ship in the same way a carpenter builds a house. Some shipfitters make the steel plates and parts that are assembled into the form of the ship by other shipfitters. They work with all the metal and steel that goes into the ship's foundation. This includes ladders, railings, doors etc. Shipfitters used to work mostly in wood. Today most shipfitters work in steel. Bath Iron Works, which builds ships for the U.S. Navy, employs shipfitters.

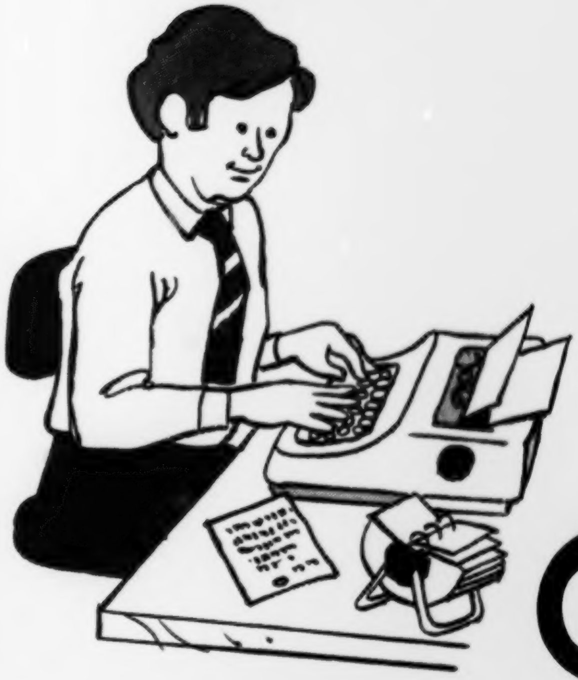


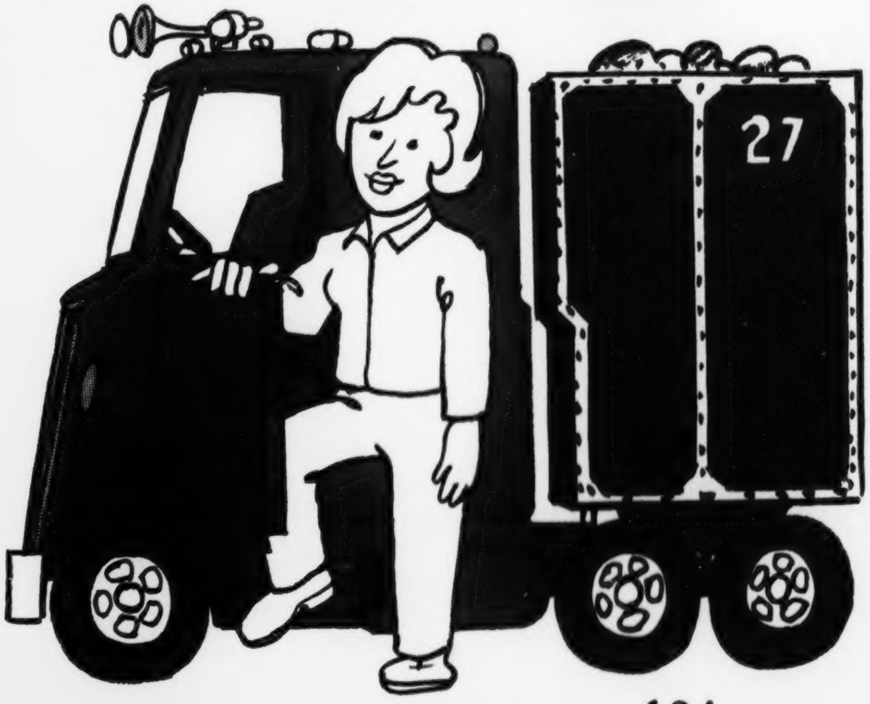
SHOE WORKERS operate special equipment in a factory to make parts of shoes. Some cut sections to form the upper part of the shoe. Others stitch those sections together on a machine. Shoe workers fasten the upper parts of the shoe to the sole. They stitch or glue these parts together. Some shoe workers add the heel and decorations, such as bows or buttons. Shoe workers generally do the same job each day.

SURVEYORS use measuring techniques to determine points and boundaries. These points may be on, beneath, or above the surface of the earth. There are many different kinds of surveyors. Engineering surveyors use special, delicate instruments to locate boundaries. They do this work when roads, dams, and bridges are to be built. Others conduct underground surveys to find out where pipes are to be laid or tunnels dug. Aerial surveyors determine distances on the ground by taking photographs from airplanes. Surveyors compile notes, sketches, and records of their information. Survey helpers and instrument assistants work with surveyors.

T







TAILOR
TYPIST
TRUCK DRIVER

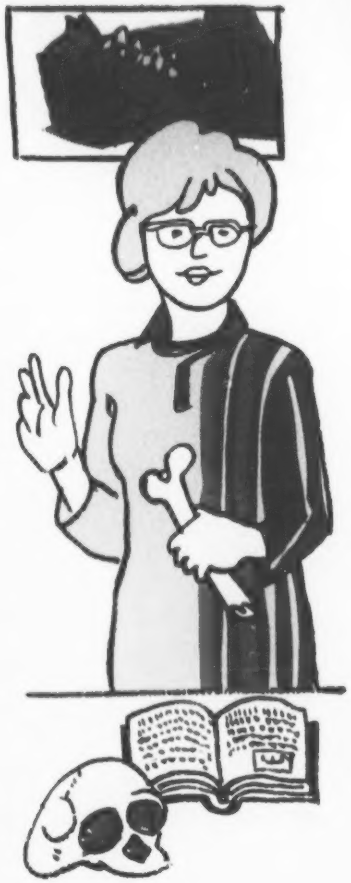
133

134

TAILORS do especially difficult kinds of sewing by hand and machine. Most tailors make expensive clothing that is shaped precisely for the customer. Some tailors design and make suits, coats, and other clothing. They measure customers in order to prepare the patterns to make the clothing. Tailors then cut the fabric and make the garment to fit the customer.

TRUCK DRIVERS transport part of nearly everything we eat, wear, or use. Some truck drivers make deliveries locally. They must be skilled in maneuvering trucks into tight parking spaces, narrow alleys, and up to loading platforms. Other truck drivers deliver huge loads across the country. For example, truck drivers deliver fresh fruits and vegetables to the northern states year round. Truck drivers also pick up and deliver goods from trains, ships, and airplanes. Some truck drivers may spend the whole day stopping at different stores until their trucks are empty. Long distance truck drivers travel along turnpikes and highways all hours of the day and night. They carry goods between places that are hundreds or even thousands of miles apart.

TYPISTS make neat, typed copies of handwritten, printed, and recorded words. They type letters, reports, stencils, forms, addresses etc. Clerk typists combine typing with filing, sorting mail, answering telephones, and other office work. Transcribing machine operators type letters and reports as they listen to dictation recorded on a tape. Typists work in nearly every kind of business.



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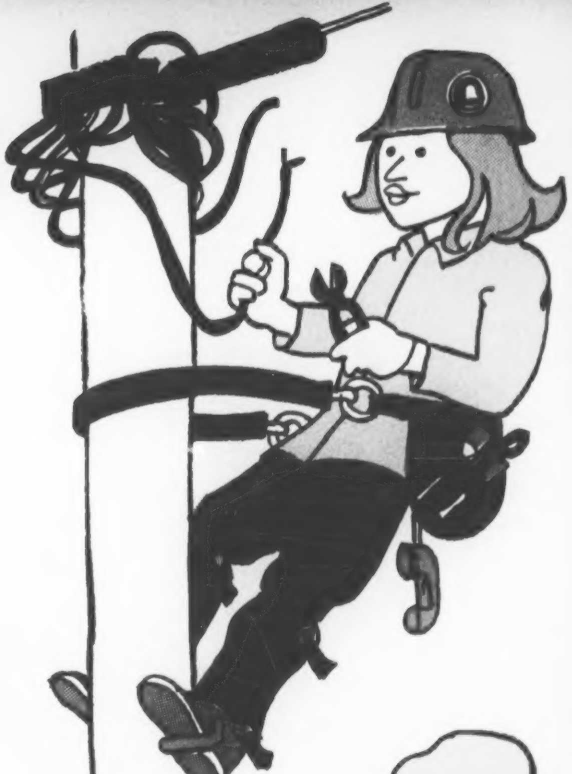
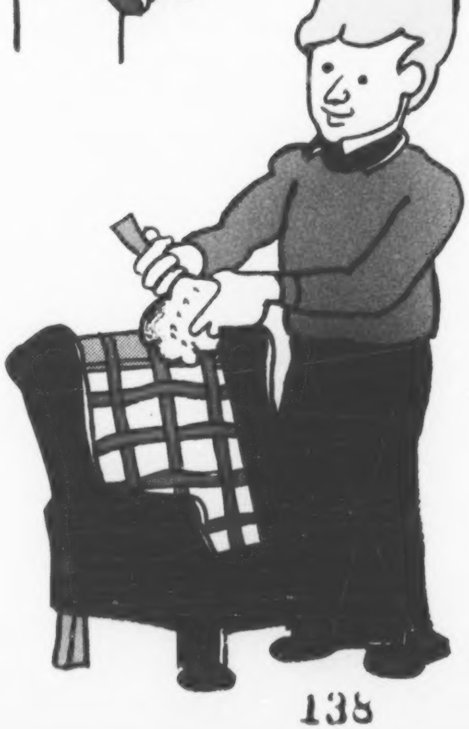
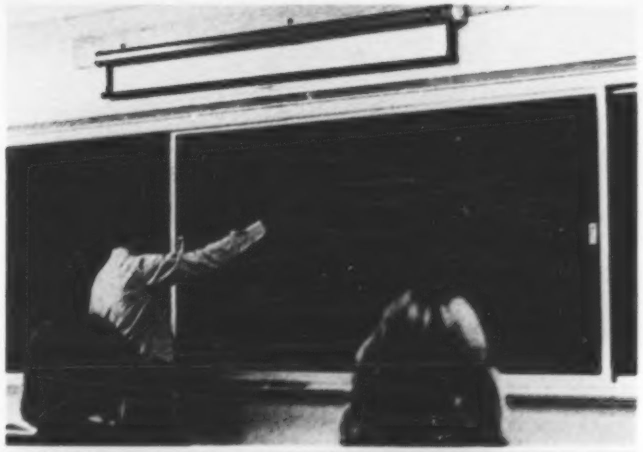




UPHOLSTERER
UTILITY WORKER
UNIVERSITY PROFESSOR

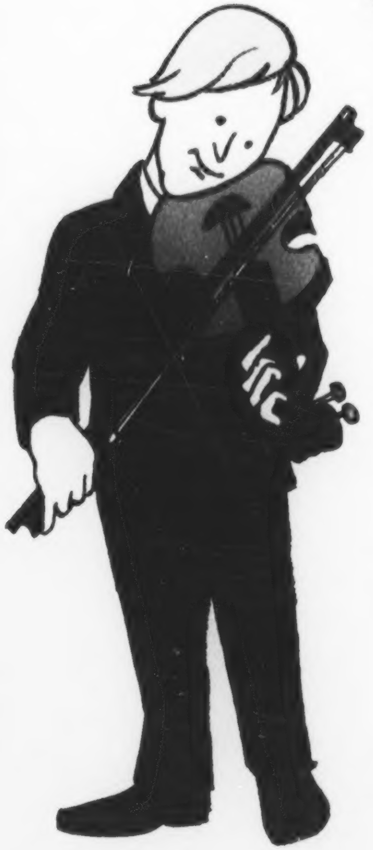
UNIVERSITY PROFESSORS teach students in colleges and universities. They prepare and deliver lectures. They encourage class discussion and compile, give, and grade exams. University professors also may use closed circuit TV, tape recorders, computers, laboratories and other teaching aids. They must keep current with their subjects by reading the latest literature and taking part in research. University professors often advise students on career and academic matters.

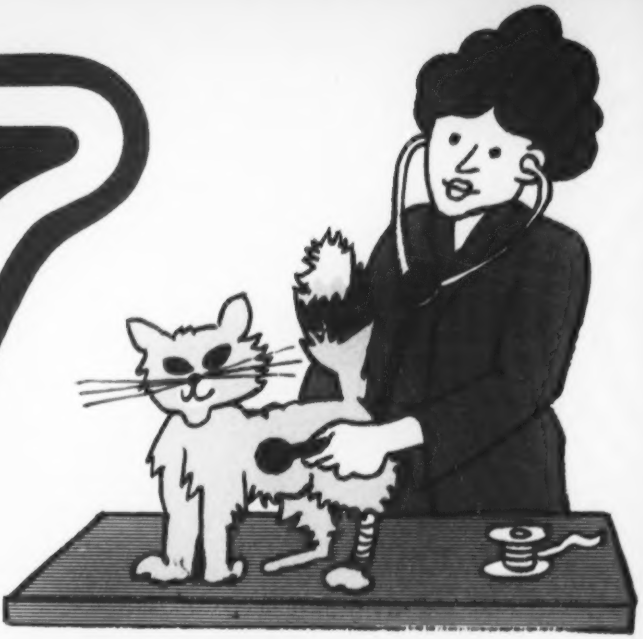


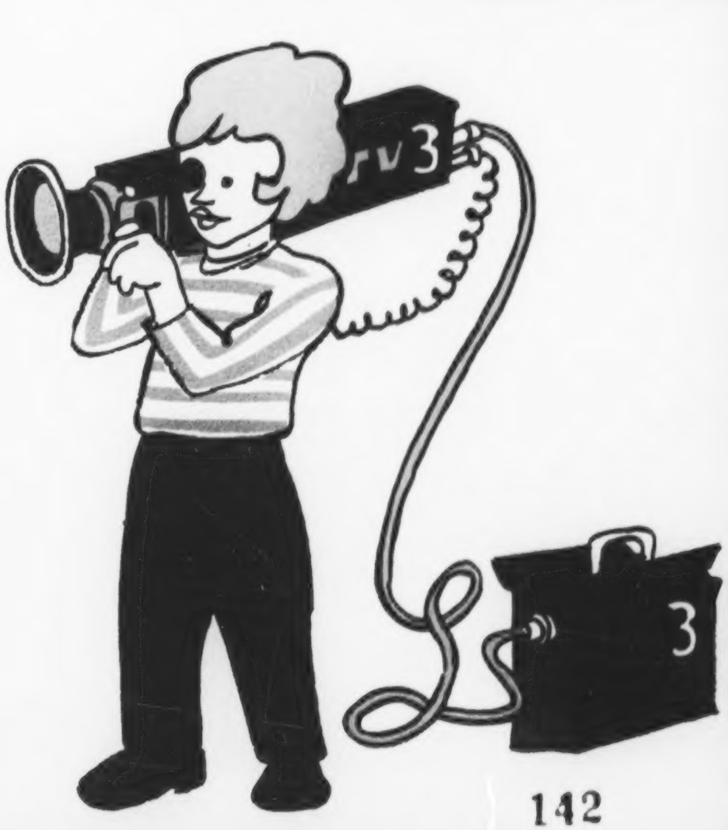
UPHOLSTERERS repair and rebuild covered and padded furniture. They must have special knowledge of fabrics and upholstering methods. Upholsterers remove covering, webbing, and padding from the seats, arms, and backs of sofas and chairs. They remove broken springs and replace or tighten them. Upholsterers replace webbing and padding, following the original design of the piece of furniture. They cover it with new material, using special tacks or staples. Each job an upholsterer does is different because of the way furniture is made. Many valuable, but worn, antiques have been preserved by the work of upholsterers.

UTILITY WORKERS work for telephone or electrical companies. They erect, maintain, and repair wood poles and light metal towers. Utility workers install and repair cable used to conduct electrical energy. This energy transmits electricity and telephone messages into homes, schools, and other buildings. Utility workers must be extremely careful in the performance of their jobs. They not only climb high poles and towers, but are often very close to high voltage wires. Utility workers may also trim tree branches to keep lines clear of possible damage.

V





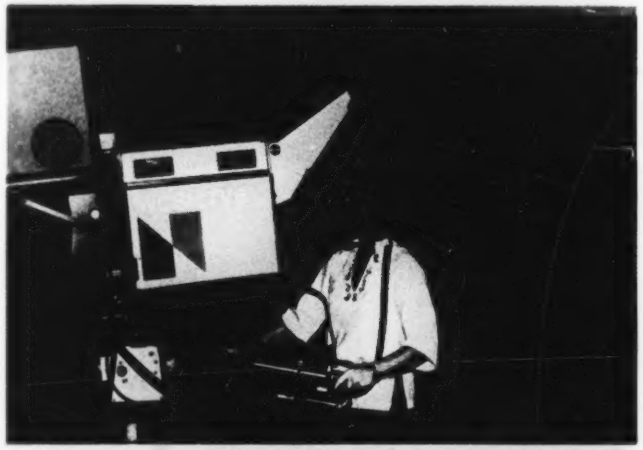


VIOLINIST
VETERINARIAN
VIDEO CAMERAPERSON

V

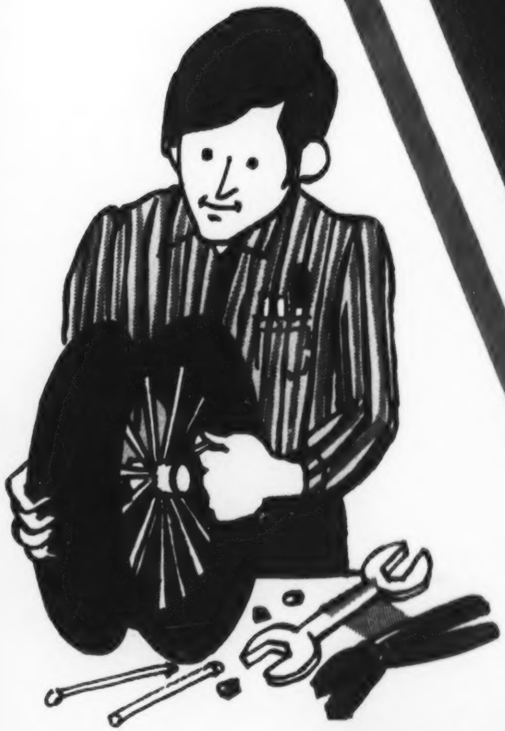
VETERINARIANS examine and treat diseased and injured animals. They do their work in hospitals or clinics or at farms and ranches. Veterinarians prescribe medicines and perform surgery on sick or injured animals. They also advise people on the proper care and feeding of their animals. Some veterinarians work for federal and state health programs. They inspect, meat, poultry, and other foods. Some teach in colleges and others do research.

VIDEO CAMERAPERSONS record people and events, using video camera equipment. Video camera operators may specialize in a certain field. For example, television stations use video cameras to film and tape news and other programs. Video camerapersons must adjust the lighting, distance, and other settings while operating the camera. Often a video cameraperson will be shown on television while filming an event. Video camerapersons also work in medicine, science, and other fields.



VIOLINISTS are often professional musicians who earn a living by performing for the enjoyment of others. As professional musicians, they have had many years of formal study and practice. Some violinists play in symphonies, opera, ballet, or theater orchestras. Some form small groups, such as a string quartet. A few truly outstanding violinists, and other musicians, give their own concerts. They appear as soloists and may make individual or group recordings. Violinists, and similar musicians, may teach others. Professional musicians, like dancers and other artists, must continually practice their art.

W



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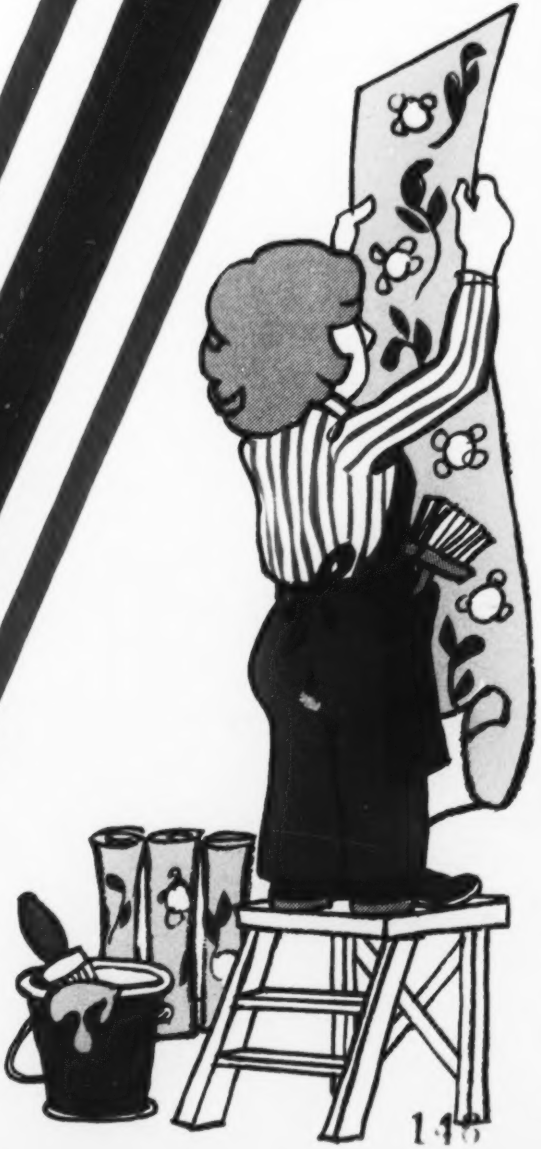
WELDER
WHEELWRIGHT
WALLPAPER HANGER



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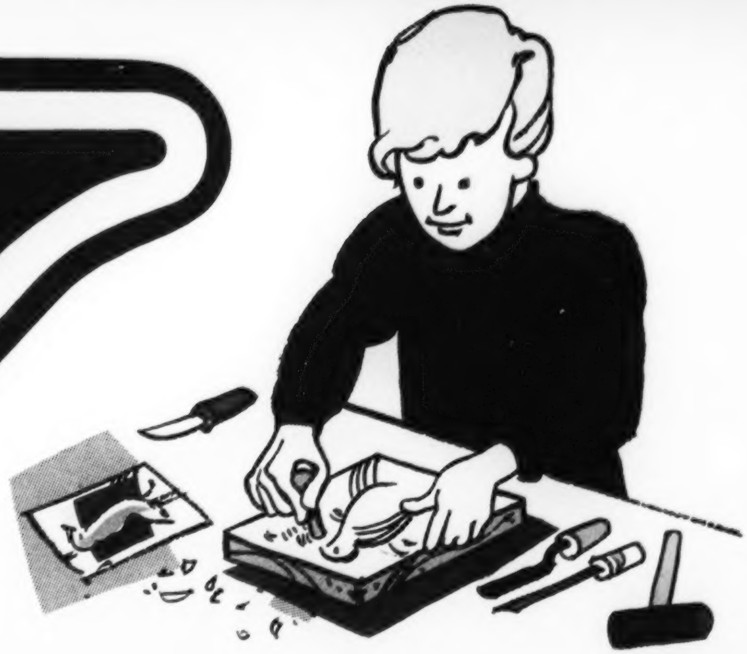
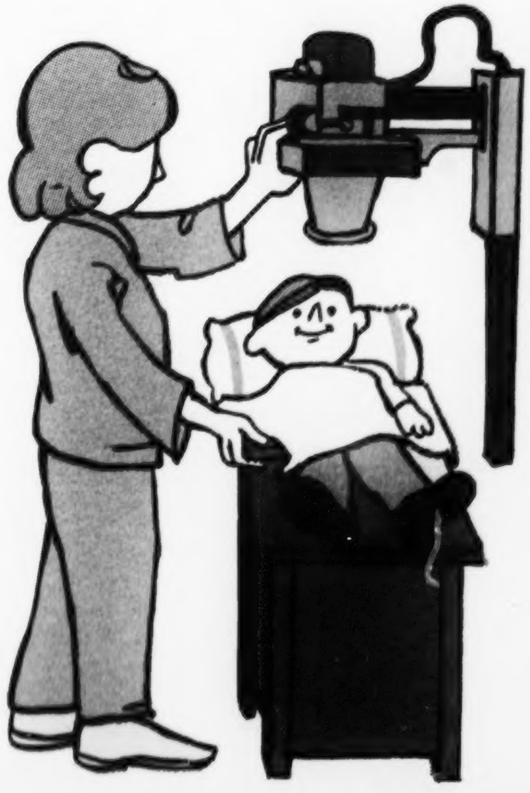
WALLPAPER HANGERS use hand tools to cover walls and ceilings of rooms with decorative wallpaper. They use water, steam, or chemicals to remove old wallpaper. Wallpaper hangers must measure the areas to be covered. Then they know how much paper they will need. Wallpaper hangers must continually check their lines to make sure the paper is being hung straight. They mix paste and brush it onto the back of the wallpaper. Then they place the strips of paper on the walls or ceilings. They brush out wrinkles and smooth the seams. Wallpaper hangers work for building contractors. Some work for themselves.

WELDERS use heat to permanently join two pieces of metal. The heat partially melts the metal surfaces and combines the two pieces into a single piece of metal. Welders must control the amount of heat and the size of the melted area. Skilled manual welders use gas and electric equipment. Welding is used to build or repair ships, cars, spacecrafts, and many other products. Welders help build bridges and highways. Some welders fix tools and machinery. Welders wear eye and face shields and other protective gear because of the sparks and intense heat.

WHEELWRIGHTS repair wheels of cars, buses, trucks, and bicycles. They inspect the wheel rims, discs, and wire spokes for damage. Wheelwrights use hydraulic presses and a wheel rim to force a warped wheel into shape. They also use a pry bar and other tools. Wheelwrights replace broken or missing spokes in bicycles and other wheels. They use hand tools to make sure a wheel is lined up properly. In the old days, wheelwrights made wagon wheels.

X





XYLOGRAPHER

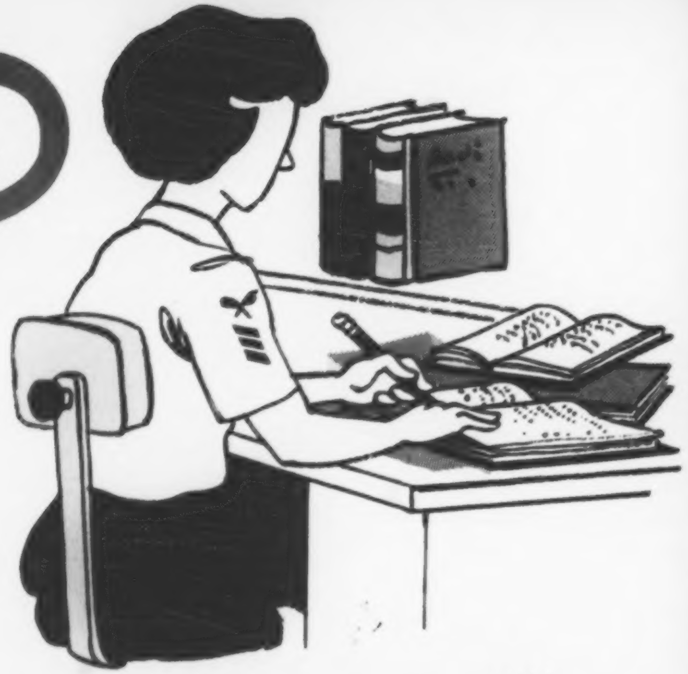
X-RAY TECHNICIAN

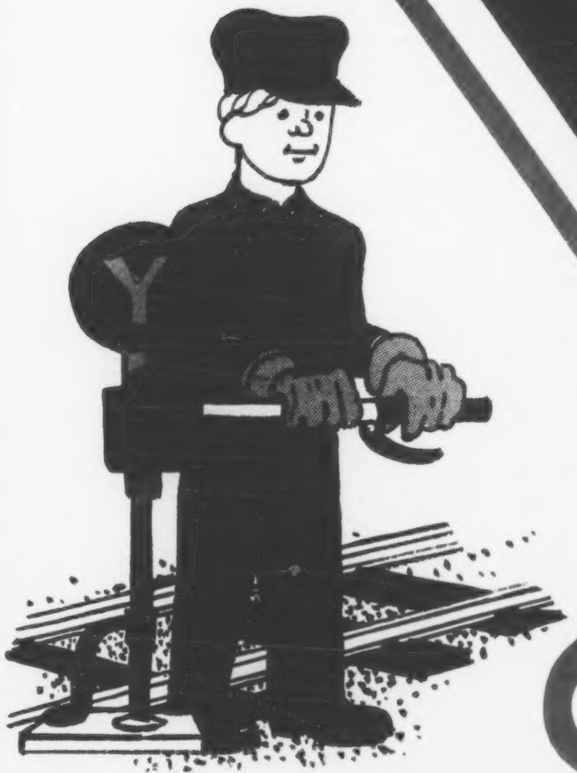
X

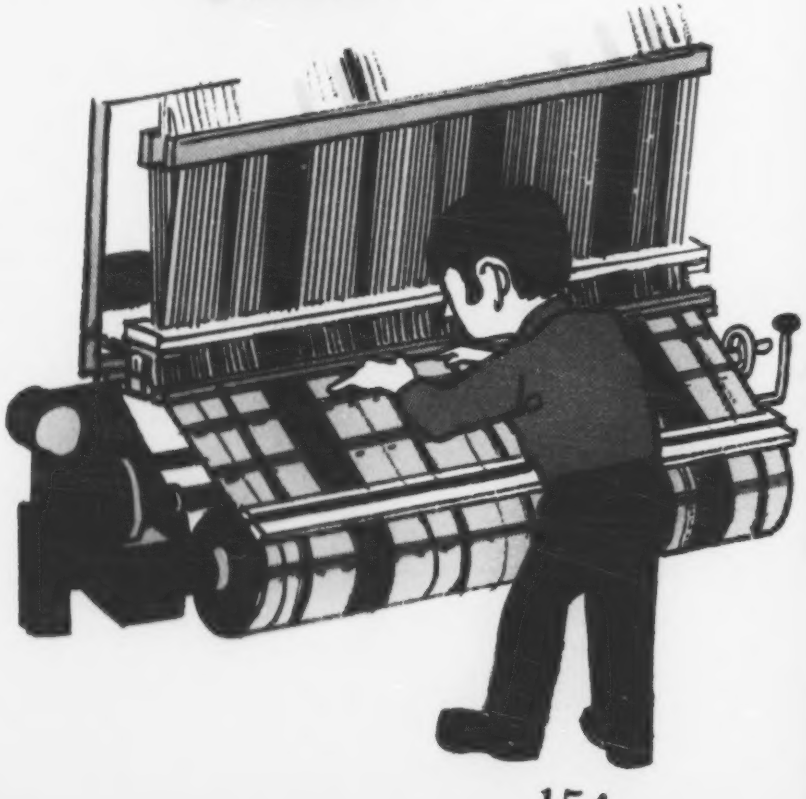
X–RAY TECHNICIANS assist doctors in finding and treating diseases by operating x-ray machines. They must be requested by a doctor to perform work on a patient. X-ray technicians position the patient so that the correct parts of the body can be photographed by x-ray. X-ray technicians, or technologists, develop the film following the x-ray. A radiologist then studies the film to determine the disease and its location. X-ray technicians also treat diseases by exposing areas to x-rays. This is also done under a doctor's supervision.

XYLOGRAPHERS use sharp hand carving tools to make impressions in wood. These are called wood cuts or wood engravings. Xylographers carve the pictures, or words, into the wood. The carved surface is then covered with ink. When paper is pressed against it, a print is made. The pictures that appear in very old books and magazines were made by xylographers. They first carved them into a wood surface.

Y





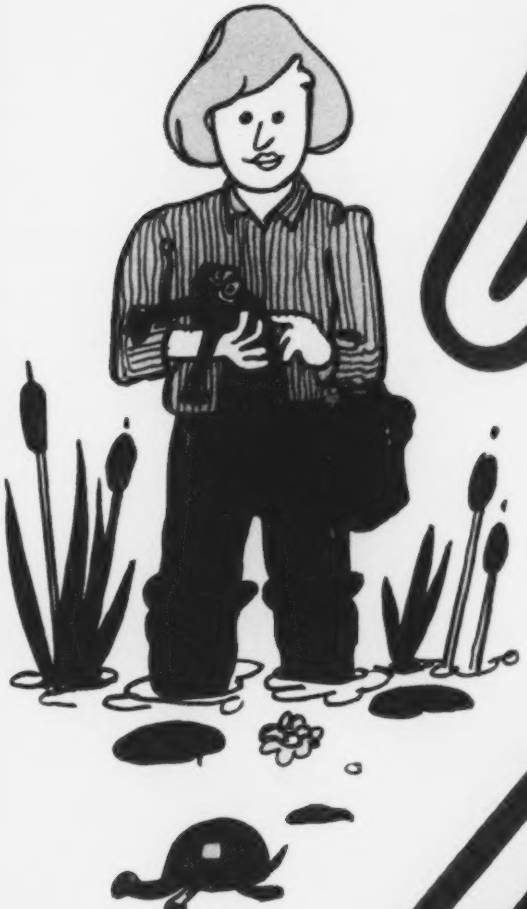


YEOMAN
YARN WEAVER
YARD WORKER

YARD WORKERS are employed in many different ways. Some yard workers switch railroad cars in rail yards or industrial plants. They use lanterns and arm signals to give instructions to the engineer and switch tender. Other yard workers are employed by companies that sell lumber and other building materials. They load and unload goods from trucks. They also inspect the quantity and quality of loads trucked in and out. Yard workers at lumber companies also stack, sort, and store lumber and other products.

YARN WEAVERS work in the textile industry. They watch cloth that is being woven on big looms to find any breaks or defects. Yarn weavers can operate and observe as many as two hundred looms at a time. They repair breaks in yarn and make minor repairs in the looms. Other yarn weavers may use a hand loom to weave rugs or woolen cloth. Yarn weavers generally work in factories.

YEOMEN are people who perform clerical jobs in the Navy. A yeoman's work could be compared to that of a secretary in an office. Yeomen receive visitors, take phone calls and messages. They type, organize files, and keep records of Navy officers. Yeoman is not a rank, as sergeant or colonel are. It is a job. Yeoman is a nautical term and is used only in the Navy and Coast Guard. Yeomen work for commanding and executive officers.



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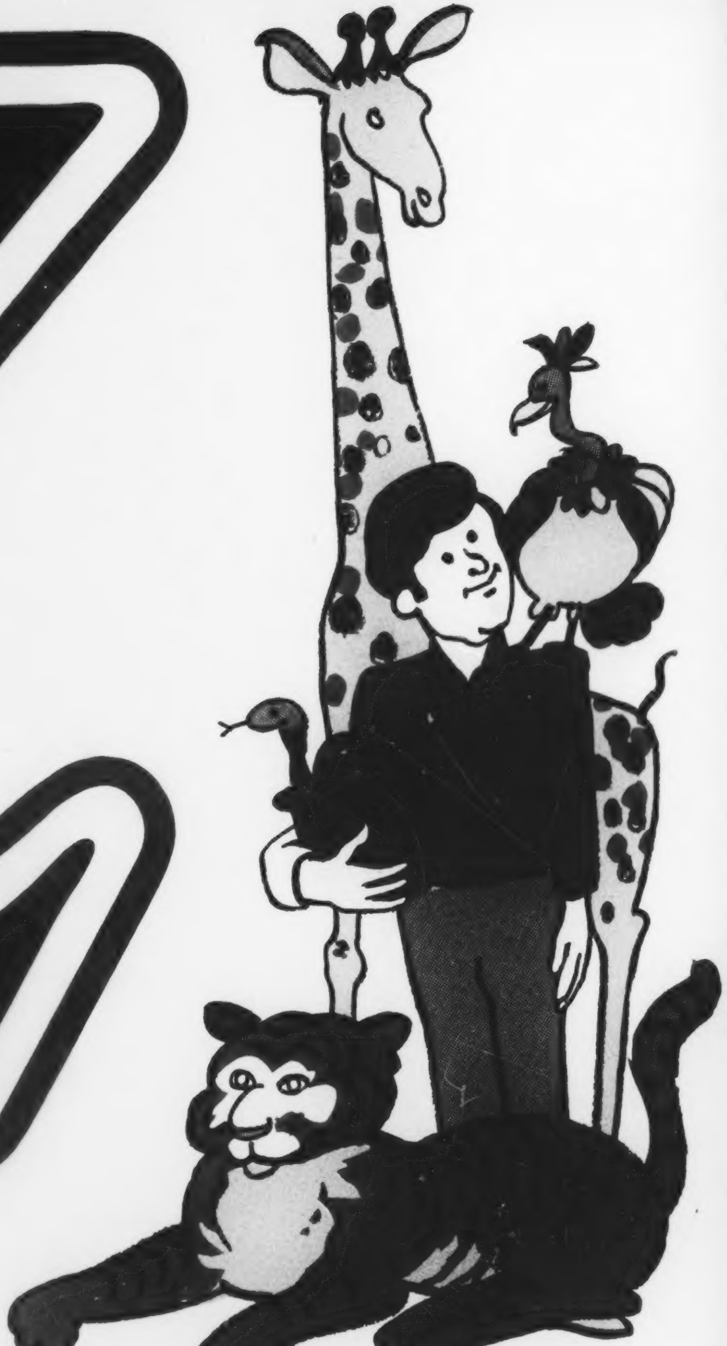

ZOOLOGIST
ZOO KEEPER

ZOO KEEPERS take care of wild animals kept in zoos. They feed, water, and clean the animals in zoos. They treat their illnesses and injuries. Zoo keepers transfer animals or birds from one cage to another. They often answer the questions of visitors to the zoo. Zoo keepers choose the locations and types of exhibits which are best for the animals. They make sure that the animals are well cared for and comfortable in their environment.

ZOOLOGISTS study many different parts of animal life. They study the development and behavior of certain species of animals. Some zoologists conduct experimental studies with live animals. They may raise specimens for experiments. The study of animals has given humans a better understanding of themselves. Many animals have organs and body processes similar to humans. Zoologists may work in many fields.